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*A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.*

WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."

VOL. CXXI.—No. 4097. AUGUST 12, 1921.

## THE CONTROL OF ADVERTISEMENTS BILL.

THIS Bill was to enable local authorities to require the removal of unsightly advertisements and to preserve the amenities of county and town, than which could anything be more important? The disfigurement of our cities and countryside has gone to such lengths through the unrestricted licence of advertisement that there could hardly have been a Bill more needed; yet it has been thrown out practically without discussion by the House of Lords. That there is a public, and that a growing one, who would support such a measure cannot be doubted, but their support needs to be something more than merely academic, and unless electors take steps by writing to their representatives in Parliament and influencing local bodies to do their part also, we shall not get the powers that are needed to control the abuse.

At the present moment the localities in which we live do not belong to us. They are the prey of the great commercial interests who dominate our thoroughfares with their advertisements. Participating in no other way in the life of the locality, except to disfigure it, they usurp the rights of the community who dwell therein, and assert the right to "do what they like with their own" on their neighbours' property. It is true that they purchase the right from the locality, but the locality should protect its rights as a body as against the private interests of those who profit by it. Or, to put it another way, have we ever given much thought to the matter at all, while those who object to it accustom themselves to endure this usurpation, supposing that there is nothing else that they can do?

But the matter is largely in our own hands. It is our citizenship which has been at fault, in that we have been such careless guardians of the dignity of our streets and rural places. It is a matter which affects the prospects of architecture very nearly, and one on which we should expect architects to feel most strongly. If we could feel a regard for the locality in which we live more akin to what we feel for our own dwelling or church, should we be content to leave them to the disfigurements to which we yield our streets and public places? Unfortunately, no such responsibility is felt, and we look at the unsightliness creeping over town or countryside as not our personal affair at all. If we concerned ourselves about it we should be indignant at any injury done to the locality in which we live only next to that we feel for an injury offered to our home. Violation done to the town or countryside is only second to that done to ourselves. We ought to be almost as jealous for our communal amenities as for our personal ones and protect them from abuse and exploitation for commercial ends. Our citizenship needs to express itself nearer home; in love for the locality in which we dwell; to keep it seemly and becoming so that it may preserve and return to us the satisfaction of dignified and beautiful surroundings. But it cannot be said that this is so when we hand over our public places, our bridges and countryside, to exploitation for trade purposes, and while the prominent sites and centres of our cities are made a background for the display of disfiguring advertisements.

Just as we slip into other bad habits, so we have let this evil grow upon us. But it is also due to defective reasoning which leads us to neglect the truth that the highest personal interest is the general interest, and that we are all sufferers by such abuse. Why should we not enlarge the area of our enjoyment and find the welcome in our streets that we expect from our homes? The times are propitious for such a change, and it would be unjust not to recognise a readiness for better things. Improvements are taking place, such as the now well-known instance of the advertisements of the Underground Railway. We are begetting a conscience about communal matters and there exists a more public-spirited view to which we can appeal. There are few who are not beginning to find a new meaning in citizenship, and the realisation of the claims involved in it will modify the attitude of those interests which are the cause of so much of the evil, because they will begin to see that we are all members of one body, and that what hurts one hurts all. The manufacturer will then be content to put the responsibility of his citizenship before anything else and he will benefit accordingly. The Bill which has just been thrown out will come up again and meanwhile it is the duty of the electors to make their influence felt in promoting its chances.

The present time has witnessed the growth of certain interests to an extent which gives them a predominating control, and this is a danger. And in this matter of street advertising they have infringed the public rights. Instead of being controlled they largely control and dominate us. We do not really like to see our localities defaced, our principal centres deformed by the competition of commercial interests. We need to exercise our responsibility here, and the abuses of advertisement should be controlled by citizens determined to secure the amenities of our land from desecration.

We feel sure that some of the large commercial companies are quite unaware how often their posters are an unsightly defacement of the streets, and they probably think them quite satisfactory because they have cost a great deal. This want of knowledge as to what is becoming and artistic arises through lack of education, and in this connection the Commercial Degree, which is now incorporated in the Curriculum of the London University, may have a good effect in the future.

During the war the subdued lighting of the streets revealed a new beauty and one felt the influence of nature co-mingling with the architecture. The mind was filled with associations shaped out of the mystery of the streets, and we felt the dignity of city life and its surroundings. We do not say anything here against suitable nocturnal illumination, which could be made very beautiful, but of the abuse which is the outcome of the licence now prevailing, through which our public places are made unsightly by a glaring competition of advertisements day and night, destructive of the amenities of our streets and an affliction to the eyesight.

To study the history of the past is to recall the difference between the ancient and mediæval world and our own in the respect for and treatment of public places, which at that time partook of a sacred character in the eyes of the people. Only recently there appeared in a contemporary under the title of "Treasures of Pompeii" an account of the street crossings and public places in the city, which were considered sacred and generally marked with sacred pictures and an altar for propitiating sacrifices to the Lares who had the homes and street crossings under their special protection. Think of this in the light of Piccadilly Circus to-day! It is the religion of our daily life which needs restoring, the reverence for something greater than ourselves. If we would propitiate beauty we must make a way for her by enthroning our reverences and beliefs on the wide places of our city life. And it is to do the little things, to tidy up, order and restrain, that is the duty laid upon us now. It is not the hour for Pylons or the levity of raw, ambitious enterprises. We have to prepare the way for beauty by such measures as this Control of Advertisements Bill, by attention to all the details which an awakened citizenship will find in urgent need of correction and improvement.

# NOTES.

**Unification and Registration of Architects.**

WE print on p. 187 a letter on the unification of architects, signed by Mr. Sydney Perks and Mr. George Hubbard, which raises an important issue and which indicates a difference of opinion amongst architects on the methods to be adopted in the attempt to obtain unification and registration—whether registration should come before unification or *vice-versa*. Beyond calling attention to the letter we do not at this stage propose to say more, except that we hope the harmony which has so far prevailed in the unification movement may not be broken by any action which the newly-appointed committee referred to by our correspondents propose to take.

**The Housing Problem.**

THE two articles which we publish in this issue on the housing question (one by "Housing Architect," page 190, and the other by Mr. E. J. Frewen, page 192) are of interest as the considered views of men who have had practical experience in the erection of small houses since the armistice, and we desire to direct attention to them because we think all relevant facts and opinions should be placed before the public. In reference to the opinions expressed by "Housing Architect" we may remark that we believe in a return to private enterprise, but we cannot ignore the fact that as things are small houses are not being built to let at economic rents, though we believe they will again, as they were before 1910, if the building industry is given a fair chance. We have previously suggested, and we would urge again, that the Government should arrange a conference of all bodies in any way affected by their scheme, including architects and builders, as we believe that from such a conference a way out might be found.

**A Great War Memorial.**

ONE of the most significant and appropriate memorials to those fallen in the war will be the Memorial Chamber in the Great Tower of Peace at the new Parliament House, Ottawa. This chamber will be symbolical in design and material of the 60,000 Canadian soldiers who fell, and their names are to be inscribed in a Book of Remembrance on the altar. The architects, Messrs. Darling & Pearson, have given an interesting description of the work.

**The Memorial Chamber.**

FROM this description in the *Times* we take the following: The Chamber forms the first floor of the tower, and is entered from the main floor of the Central Hall. Around the walls of the Chamber will be a black marble base, the gift of Belgium, bearing the weight of the memorial as the Belgians bore the first terrific onslaught of the German hordes. Reared upon this, and enclosing carved canopied niches, will be columns of St. Anne's marble, also from Belgium, suggesting her aspiration to rise to new strength after being bruised and crushed by the invader. Behind the niches, with their bronze tablets recording Canadian battles, are to be walls of Savonnière stone from France, solid and immovable as France at Verdun. On the centre boss of the groined and vaulted ceiling, where the mitred ribs unite impressively, will be carved the Dominion coat-of-arms, the coats-of-arms of the Provinces, the symbols of France, England, Ireland, Scotland, and Wales. The stained-glass windows are the gifts of the nine Canadian Provinces. Stones for the paving of the floor are being gathered in every part of France where Canadian troops fought. After these have been turned into flag-stones, on their surface will be incised and caulked with lead the names of the places at which Canada's battalions were engaged. The floor will be the only record of the last rest of many a gallant man. In its centre, surrounded by those French and Belgian walls, will stand the Altar of Great Britain: a marble altar carved out of a solid block, the offering of the Motherland, that on her breast may lie the Book of Remembrance, on the pages of which will be written the 60,000 names of the men who died for her honour. The height of the whole tower will be 285 ft. In the belfry over the Chamber is to be placed a carillon of 49 bells. Good progress is being made with the construction of the tower, which will be embellished with figures of warriors with reversed arms, and, at the entrance, with others indicating the perpetual fight between Civilization and Barbarism. Thus the great romance of history, particularly the history of our own times, will be built into the fabric of the Parliament House.

**Post Office Telephones.**

MR. CHARLES B. FLOCKTON, President of the Sheffield, South Yorkshire and District Society of Architects and Surveyors, raises some important points in a letter published in our correspondence columns. If the Postmaster-General's claim that he possesses Parliamentary powers to enter upon anybody's land or buildings for the purpose of erecting poles or laying cables, and thus disturbing the grounds of private people can be substantiated, the points claimed by our correspondent are very serious ones and of considerable interest to property owners, and we hope they will receive proper attention.

**Roadside Hostelries.**

A RETURN to something more akin to the old-world hospitality and relationships of the hostelry or inn of the countryside—a spirit which includes more reciprocal feeling between landlord and customer—is certainly to be desired, and we read with interest the news that "An Oxford M.A." has gone into business as a hotel-keeper somewhere in Oxfordshire. We have often wondered why the ex-officer has not before hit upon the business of catering for a public looked upon too often as a victim. The Oxford M.A. is reported as aiming to give more attention to the comfort and gastronomical aspirations of his guests than is commonly experienced. To give satisfaction and create an atmosphere of welcome as well as to gain profit is an aim we can all appreciate; but there is another consideration which the Oxford M.A. would do well to bear in mind, and that is the taste and becomingness with which he surrounds his guests, who do not want advertisements of beer and mineral waters to form the back-

**The Old Dairy Farm, Edenbridge.** (*See p.* 193.)

ground, and who are not satisfied with the presence of a few articles of ancient furniture in the hall. Here is a field for suitable architecture and appointments with which to adorn the country road so that the wayside hostelry may add to its hospitality the grace and welcome of becoming surroundings.

**Sites for Statues.** On a recent occasion a writer in the *Times* enumerated some of the sites in London which were available for statues, and referred especially to the opportunity afforded by Waterloo Bridge, in the spaces between the arches, and to opportunities presenting themselves on Westminster Bridge also. These two bridges, the former an exceptionally fine one, no doubt provide opportunity for the

**Gros Kirke, Zurich.**

display of sculpture which might prove an enhancement to their character—provided we can get it. It would not be suitable to erect statuary in any piecemeal way, and any proposal of the kind necessarily presupposes a scheme dealing with the bridge as a whole, and the sculpture should be considered from this point of view. To fill up one position after another without this unifying aim might lead to a disaster. Waterloo Bridge is fine enough as it is, and we have suffered too much disfigurement of prominent sites to contemplate lightly any addition to it. In considering sites for statues, we must also consider the statuary suitable for sites. Sufficient weight must be given to the governing consideration of the statues themselves, and how are we to procure them? It is suggested by the same writer that some of the statues which at present choke up the transepts of Westminster Abbey might with advantage be removed from their present position to adorn Westminster Bridge or other public places. This is a somewhat alarming proposal. Their removal from the Abbey, though greatly to be desired, if only to haunt our public thoroughfares would be, in the case of some of them, a worse state than the first.

**Zurich.** (Photo by Captain Watson.)

**Statues and their Sites.** The correspondence which has arisen as to sites for statues shows afresh what widely divergent views are held both as to suitable sites and the quality in statues themselves. A public which cannot appreciate the fact that our one outstanding success is the Duke of York column, both in itself and its fortunate site, can hardly be argued with.

**Runnymede.** There are so many places and things in this country of historic and sentimental interest that it may be difficult for us to protect and preserve them all. But surely Runnymede, which is now offered for private purchase, is not one of them. As Magna Charta was sealed here on June 15, 1215, its historic interest to the English-speaking race is supreme. Besides this, the public rights of footway, camping, pasturage, &c., would make it a somewhat difficult problem for private enterprise, and the rent at present obtained appears to be only £164 per annum. As the *Times* rightly says: "Runnymede makes a thousand claims to become a national possession."

**The Care of Churches.** It is worth noticing that the Bishop of Winchester has appointed a committee to assist the Chancellor of the diocese in matters of art connected with churches. Of course, everything depends on the capacity of the committee, but the fact of its being appointed is evidence of a genuine desire to seek wise guidance.

**Zurich.** (Photo by Captain Watson.)

# GENERAL NEWS.

### Professional Announcement.

Messrs. Frend, Houchin & Co. (A. B. Houchin), architects and surveyors, have removed from 8, New-court, Carey-street, W.C. 2, to 9, St. James's-street, S.W. 1.

### War Memorial Tablet.

Mr. Lawrence W. Taylor, architect, of Newcastle, has presented to his old school, Wigton (Cumberland) Friends' School, a carved tablet in fumed oak, containing the names of twenty-two scholars who fell during the war.

### Battle Bridge.

Battle Bridge, which is said to take its name from a conflict between Boadicea and the Romans at the spot where it connects Pancras-road and York-road, is being demolished by the Great Northern Railway. A new bridge will be built higher up the line.

### Lancashire Roads.

The Lancashire County Council on Friday last week, sanctioned the expenditure of £69,000 on a new road to be constructed at Ormskirk. They also sanctioned the spending of £174,000 on the widening of the Manchester-Liverpool main road from Liverpool City boundary to Prescott. Half the costs are to be refunded by the Ministry of Transport.

### A Newcastle Cricket Match.

Newcastle Architects were beaten by the Old Novocastrians in a cricket match at the Royal Grammar School Ground, Newcastle, on August 3, by 126 runs to 68. For the Architects Mr. C. P. Tanner accounted for four wickets at a cost of 22 runs. The Architects' most successful batsmen were Mr. F. Haswell, who topped the list with a score of 26, and Mr. J. J. Eltringham, who compiled 16.

### The National Gallery.

The trustees of the National Gallery of Scotland have deposited on loan at the National Gallery, Trafalgar-square, a full-size copy by Poussin of the "Bacchanal" or "Feast of the Gods." This picture is now on view in Room XX. The original, which was begun by Bellini and finished by Titian, recently passed to an American owner.

The portrait of Mrs. Jopling, painted by Millais in 1879, has been presented to the National Gallery (Room XXI) by Mr. Lindsey Jopling.

### R.I.B.A. Competitions Committee.

The Council of the Royal Institute of British Architects have appointed the following members to serve on the Competitions Committee for Season 1921–1922:—Professor Patrick Abercrombie; Mr. W. K. Ansell; Mr. Henry V. Ashley; Mr. G. Leonard Elkington; Mr. L. Rome Guthrie; Mr. E. Vincent Harris; Mr. Arthur Keen (Hon. Secretary, R.I.B.A.); Mr. H. V. Lanchester; Mr. F. Winton Newman; Mr. R. M. Pigott; Mr. William A. Pite; Mr. T. Taliesin Rees; Mr. J. Douglas Scott; Mr. Septimus Warwick; Mr. Paul Waterhouse (President, R.I.B.A.); Mr. Herbert A. Welch; Mr. W. G. Wilson.

At their first meeting the Committee appointed the following officers:—Chairman: Mr. W. G. Wilson; Vice-Chairman: Mr. H. V. Lanchester; Hon. Secretaries: Mr. Henry V. Ashley and Mr. Herbert A. Welch.

### The Royal Sanitary Institute.

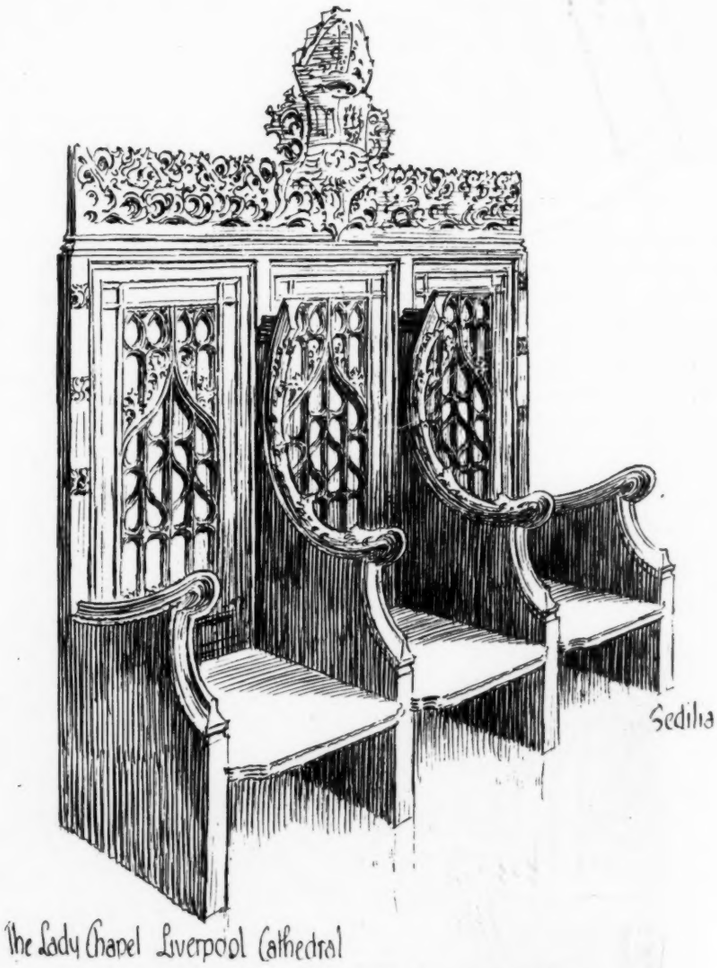
At an Examination in Sanitary Science as applied to Buildings and Public Works, held in London on July 29 and 30, 14 candidates presented themselves, and the following 2 candidates were awarded certificates:—Coe, V. R., London; Reeve, H. A., Norwich. At an Examination for Inspectors of Nuisances held in London on July 29 and 30, 41 candidates presented themselves, and the following 15 candidates were certified, as regards their sanitary knowledge, competent to discharge the duties of Inspector of Nuisances under the Public Health Act, 1875:—Bell, F. R., Southsea; Groom, A. C., W. Ealing; Lunn, G. H. V., Walthamstow; McLynchy, R., Exmouth; Morrison, Helen M., Enfield; Naughtin, T. H., New Southgate; Newbury, G. F., Bristol; Penn, G. H., Sawbridgeworth; Smart, C. B., Southsea; Smith, Elsie N., Norwich; Swain, F. W., Banbury; Tyler, A., Bristol; Tyler, R. J., Sidcup; Warner, P. A., Godalming; Waters, Blanche, London.

### Victoria and Albert Museum.

At the Beau Desert sale recently the Victoria and Albert Museum acquired the bust of an Englishman, Mr. Baker, by Bernini, which is probably the only authenticated example of his work in marble outside Italy except the portrait of Louis XIV at Versailles. The "head and Busto of Mr. Baker, in white marble, by Cavalier Bernini," came into the possession of Sir Peter Lely during the sculptor's lifetime, and figures in his catalogue; at his sale in 1682, two years after his death, it was bought by the Earl of Kent, and it may be traced through a long line of illustrious English collectors, including Lord Hardwicke and Lord Cowper, down to its last owner, Lord Anglesey. Horace Walpole, in his "Anecdotes," speaks with enthusiasm of the bust, then in the possession of Lord Royston (afterwards the second Earl of Hardwicke), stating that it was reckoned preferable to that of the King. "The hair," he writes, "is in prodigious quantity, and incomparably loose and fine; the point band very fine. Mr. Baker paid Bernini an hundred broad pieces for his, but for the King's Bernini received a thousand Roman crowns." The bust is now temporarily on view between the pillars of the Central Hall, facing the main entrance of the Museum; it stands on a pedestal dating from the middle of the eighteenth century.

### Nottingham and Derby and Leicester Architectural Societies.

The Nottingham, Leicester and Derby architects paid a joint visit to Staffordshire on July 21. The two societies met at Derby and the party, which numbered over 70 and included ladies, motored to Ashbourne, where they were received by the Rev. Canon E. E. Morris and conducted over the church, which contains evidence of Saxon foundation. The octagonal spire of the present building rises to a height of 212 ft. The church contains some of the original thirteenth-century stained glass. In the Lady Chapel, enclosed by an ancient screen, are some fine monuments. The old almshouses, dating back to 1641, were inspected After lunch at the ancient hostelry of "The Green Man," Norbury Church was visited. The vicar (Rev. H. P. Mathers) explained the features of architectural interest. The nave and chancel date back to 1340. By the courtesy of the owner, the old manor house was opened to the visitors, who greatly admired the beautifully carved old oak beams and panelling inside and the quaint old rose garden outside. The party then motored to Wootton Lodge, which the owner had given them perimssion to inspect. Capt. Unwin, V.C., briefly gave the history of the building and personally conducted the party through. It was built about 1615 of grey stone and contains many fine features and details outside and in. On returning to Ashbourne tea was taken and then a return made to Derby and Nottingham.




**Stall End, Lady Chapel, Liverpool Cathedral.**

# CORRESPONDENCF.

### Unification of Architects.

Sir,—Amongst the members of the Royal Institute of British Architects (R.I.B.A.) there is again a growing desire to obtain statutory powers for the unification of architects.

This object, it is hoped by the supporters of the movement, may be obtained by inducing unattached architects to join the R.I.B.A. so that the Institute may be in a position to represent the whole profession when a Bill is to be laid before Parliament. In the meantime it is proposed that the Institute should amend its by-laws and apply to the Privy Council to have its Charter revised so that the doors of the R.I.B.A. may be thrown wide open for all unattached architects to enter.

However desirable unification may be, it is regarded by others that the proposed method of opening the doors is not the right course to secure this end, for in the event of failure to obtain a bill the status of the Institute would be lowered without any compensating advantage.

A Committee of Fellows of the Institute has been formed to consider this important subject. Mr. A. W. S. Cross, Vice-President R.I.B.A., has been elected Chairman, Mr. H. D. Searles-Wood, Vice-President R.I.B.A., Vice-Chairman, and the undersigned as Hon. Secs.

This Committee has come to the unanimous decision "That until a Registration Act has been obtained no real unification of the profession is possible, therefore they are of opinion that no change should be made in our Constitution with regard to unification until a Registration Bill is passed."

We should be glad to hear from Fellows, Associates, or Licentiates upon this matter as well as from unattached architects who may chance to see this letter.

(Signed) Sydney Perks,
Guildhall, E.C.
George Hubbard,
112, Fenchurch-street,
E.C. 3.

### Post Office Telephones.

Sir,—It has recently been brought to my notice that the Postmaster-General claims that he possesses Parliamentary powers to enter upon anybody's land or buildings and to erect poles and stays, take up the ground for underground cables, to fix brackets to the walls and chimneys and to carry overhead wires across property in any direction without any real payment and without the consent of the owner; in fact in direct opposition to the owner's wishes. It is true the Postmaster-General offers something which he is pleased to call an agreement of consent which states "this consent may be terminated by three calendar months' notice in writing on either side," but this is obviously a farce if the Postmaster-General's contention referred to above is correct. I am given to understand that under this form of consent the Postmaster-General would refuse to move any poles, stays or wires unless the site was required for building purposes.

It seems therefore that if it pleased the Postmaster-General to fix a telephone pole in the middle of a cricket pitch or in the middle of a tennis lawn and cut up ornamental grounds and destroy shrubberies for the purpose of laying underground cables he is quite at liberty to do so. These powers, if they exist, are such a very grave breach of the rights of property that an Englishman's house is no longer his own, and there is apparently no limit to the nuisance and trespass that the Postmaster-General can commit.

Chas. B. Flockton, President,
Sheffield, South Yorkshire and
District Society of Architects
and Surveyors.

### Is the Architectural Profession Overcrowded?

Sir,—In an interview recently reported in the Press, Mr. C. McArthur Butler, Secretary of the Society of Architects, is stated to have expressed the view that the young man who wants to be successful from a material point of view should choose some other profession than that of Architecture.

With all respect to Mr. Butler, I make bold to say on behalf of my Executive, and those this Union represents, that the propagation of such a doctrine at such a time and by such an authoritative official is, to say the least of it, inopportune. Such a view must emanate from a mediæval mind, and surely cannot be accepted in these hard, matter-of-fact times. Architecture is an art, but cannot be looked upon in the same light as the art of painters and sculptors who practise their art and attain prominence in them entirely by the application of their individualism. To carry on his profession an architect whose practice has reached any appreciable size must employ men often as well qualified and as able as himself. That being so, the profession of Architecture must be looked upon, not as Mr. McArthur Butler views it, but from the harder, economic, business-like point of view consistent with the times in which we live.

For can a profession justify itself in the eyes of the public if it continue to slumber at peace with such a retrograde policy as that expressed by the Society of Architects through the mouth of its able Secretary, when its admittedly uneconomic position to-day cannot allow of its practitioners affording a remuneration to their assistants commensurate with the higher cost of living, or in any way adequate to permit these employees (men of standing and qualifications often equal to those of their employers) to adopt a standard of living compatible with the highly-respectable calling of which Mr. Butler speaks? In this vineyard as in any other the labourer is worthy of his hire.

The A.S.A.P.U. is now in existence to combat this long-standing grievance of the architects' and surveyors' assistants. Its progress has been really wonderful, taking into consideration the many old-established barriers its founders have had to face. The fight for better conditions for these men its Executive Council are proud to represent may be a long one, but the present apparently insuperable obstacles of ancient prejudice and apathy my Executive feel confident will eventually be overcome.

John B. Hector,
Hon. Gen. Sec., A.S.A.P.U.

### Unemployment in the Building Industry.

Sir,—One of the chief things that struck me in reading my newspaper some weeks back was the statement by Sir Charles Ruthen "that the building industry, generally speaking, had in hand quite sufficient work to keep it fully employed until the end of 1922," and my first thought was that it would be interesting to know the actual unemployment figures for the building trades, and also how many "old hands" were being kept by employers hoping that something would turn up shortly. I was therefore very glad to see when I looked into my *Builder* for the 29th inst. that someone—from a different district—was feeling somewhat like myself.

Speaking locally—and I may say that is N. Devon—I can see no indications of this optimistic statement, and it was rather strange that I should, shortly after reading that statement, receive a letter from the Midlands in which a firm of builders said "work has fallen off terribly lately, we are just as slack as we were busy." I am quite willing to admit that the latter may be somewhat of a local instance, although I think that an investigation would prove it to be a more accurate definition of the state of building than that issued from the shades of Westminster.

When on the top of this one has to remember that there are numbers of architects with little or nothing to do, and that many will be added to these numbers, together with officials who will have to vacate positions now held under the many departments in connection with housing schemes, owing to the housing debacle, the outlook is not of the cheeriest while finding our feet again in the building trade, after being harassed over a period when, but for Government interference, we might have got fairly "into the collar" by now. I can only hope the future will prove my view to have been a pessimistic one.

"Another in Blunderland."
West.

[*** Sir Charles Ruthen was "speaking generally." Whatever the facts, the building industry ought to be fully occupied for years to come in carrying out the work that is waiting to be done.—Ed.]

**An Old Stone Coffin Lid.**

[This old stone coffin-lid, discovered in the twelfth century, now stands against the wall of Beaulieu Church, County Louth, Ireland.]

### Inquiry.

A correspondent wishes to be put in touch with manufacturers of a flooring constructed on springs for a dance hall.

### Somersetshire Archæological and Natural History Society.

The Somersetshire Archæological and Natural History Society will resume excavations at Meare Lake Village, near Glastonbury, on August 29, and will continue for three weeks. The work will be under the direction of Dr. A. Bulleid and Mr. H. St. George Gray, who have worked together at the lake villages for many years.

# A FINE EXAMPLE OF MONASTIC PLANNING.

## The Certosa di Val D'Ema, Florence.

By G. D. GORDON HAKE.

SITUATED on a cypress-bound height at the junction of the rivers Ema and Greve, a few miles outside Florence, the Certosa di Val D'Ema is one of the chief pilgrimages of the visitor to that wonderful city. Deprived by the State of their right to function, these white-clad monks, though sadly reduced in numbers, conduct one round the monastery and purvey their well-known liqueurs in charming china flasks. There is an air about this place which defies all State interference. The monastic spirit still remains.

Standing in the large courtyard by Michael Angelo's well-head after the fatiguing climb from below one can throw off the worry of the outer world and calmly appreciate the clever lay-out of this group of buildings. Around three sides of the courtyard are placed the monks' quarters, six on each side. Each set of rooms forms an independent unit, with its own garden. This unusually generous accommodation is more easily understood when one remembers that this is a silent order.

The fourth side comprises the church, cloisters, refectory, and other apartments. The cloisters serve as the main circulation. Food was wheeled round and deposited through a small hatch into each unit. The occupant received the meal by opening his side of the hatch and fed as he wished, his apartment being fully equipped with dresser and crockery. His rooms consisted of an entrance corridor leading to the steps down to his little sunken garden, and to his general room off which were his bedroom, a very small study, and a loggia, half of which was closed and half overlooking his garden on one side, and the beautiful surrounding country at the end. Here he spent the greater part of his days, either in study, contemplation, or craftsmanship, much of which is to be seen in the church and other buildings.

From below as one follows the picturesque banks of the river Greve encircling the great promontory on which the buildings stand, almost as a cliff face, the ever-changing silhouette of the group, each unit expressing itself in the whole, awes one with its grandeur. Sights such as this, man's work crowning Nature's, are the salt of life; they put us into scale.

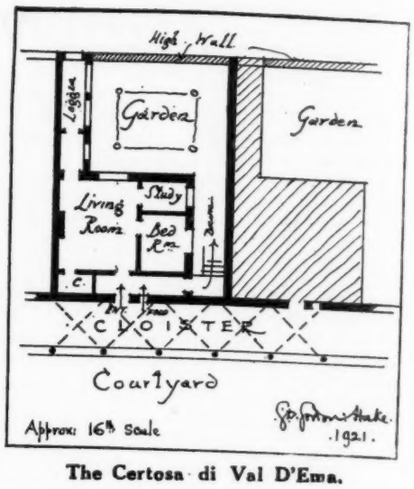
# THE ARCHITECT IN FICTION.

By DUDLEY HARBRON.

THE opinion is now very commonly expressed in the professional Press that it is highly necessary to educate the public into an appreciation of the art of architecture, and, indeed, such education is one of the objects that is to occupy the energy of a unified profession. We are told that without an enlightened public, such as France and the United States are fortunate enough to be blessed with, the attainment of an architecture worthy of the nation is a task made needlessly difficult. In reading week by week suggestions as to how this desirable object can be accomplished the idea obtrudes itself that it is not so much the art of architecture that is in need of publicity as architects themselves. We require someone to do for us that which Sir William Orpen has done for chefs; we need some power that will prevent a much-read Sunday paper (that seems to have been induced to spare a line or two for enlightenment) alluding to a distinguished member of the profession as the "sculptor" of the Cenotaph, as a certain journal did when intending to refer to the architect of that monument.

Still, though we cannot act for the films, or stand for Parliament or the local council (and thus sweeten public life), nor yet win the Derby or the Calcutta Sweep (and thus secure the needed notoriety), there are other means by which the public may be, and is, reminded of our necessary existence. If architecture is for the general public a sealed book rather heavy for the pocket, architects are a mystic body of people popularly supposed to earn their living by drawing. Drawing, being a delightfully genteel way of gaining one's bread and butter, forms for the novelist a convenient *métier* into which to apprentice his hero—in an occupation that shall afford him sufficient time for other entanglements. We are thus privileged to see ourselves as others see us.

Dickens has included in his portrait gallery a monstrous specimen of the profession in "Mr. Pecksniff, Architect and Land Surveyor," of somewhere or other near Salisbury, in Wiltshire, who must for multitudes form their mental image of a member of the profession, more particularly since the author prefaces his story by saying, "All the Pecksniff family upon earth




**The Certosa di Val D'Ema.**

are quite agreed, I believe, that no such character as Mr. Pecksniff ever existed." It is indeed unfortunate that Pecksniff, should have been an architect, and an unmitigated humbug to boot.

In Thomas Hardy's works the profession is fortunate in being represented by one (amongst others) who has had real knowledge of an architect's life, and in "A Laodicean" he has, in the person of George Somerset, F.S.A., F.R.I.B.A., contrasted with the unqualified Mr. Havill, drawn a portrait, perhaps a little youthful and conceited, yet, nevertheless, of a student and man of refinement, but who unfortunately does not possess those business attributes so much sought after by some people. It is interesting to remark how both these writers use the villainy of stealing the brilliant man's ideas as the interest in their novel so far as such interest is architectural.

Amongst recent novelists, Mr. J. D. Beresford has in "Jacob Stahl" given his readers some interesting glimpses behind the scenes of the profession, and quite a gallery of portraits of members of the craft—Mr. Baker, the country practitioner, with his penchant for piscinas: Mr. Bradley, the very diligent and deservingly-successful young Associate of the Institute; and Mr. Ridout Morley, the eminent London Fellow whom we all know, together with the many members of his hard-worked staff, culminating in Jacob himself, a queer, inconclusive character, drifting from affair to affair and from occupation to occupation in the long endeavour to find himself. Of all recent novels the technique of the profession is best exposed to the reader in this author's work.

In "The Man of Property," Mr. John Galsworthy has depicted in the person of his hero (or villain, according to your taste), a whole-hearted figure who at any rate will enlist the sympathy of the fair, and shed o'er the profession a romantic ray that it is so much in need of; and, although he says so little and does almost less, he stands before the reader in life-like reality, unfortunate only in his attachment to a lady, the wife of his client, in the person of Irene. Yet every reader must regret his death, and feel that in satisfying the conventions his creator robbed the world of a man whose career would have contained something worth preserving.

As contrasts to the unfortunate career of Mr. Galsworthy's hero are to be found in many of the works of Mr. Arnold Bennett glimpses of the happily-married, fortunately-favoured figure of Osmond Orgreave, the architect of Clayhangers House, whose lovable, cultivated, and agreeable character stands out in the midst of the more strenuous souls who occupy the world of Mr. Bennett's imagination.

However much we as the victims of these and other writers may feel that they are not quite like, let us beware of the failing of the Pecksniff family, and not deny that they "ever existed." Rather, let us thank these artists in words for lifting the veil and showing to the world that we have features and failings like other men.

# THE USE OF ADVERTISEMENT.

By Dudley Harbron.

If we are to have propaganda and publicity for the art of architecture and architects, it must be accompanied by reasoned criticism in order to prevent abuse. The average citizen is a simple, trusting sort of fellow, who believes what he is told—if he is told often enough. He cares little for the grammar of the arts, be it proportion in architecture, technique in painting, or prosody in poetry. Yet, if you speak with him in the train or on the 'bus, you will find that he is not averse to enter into conversation on the merit of a poem or picture, that he knows something of the life and character of their authors, and that his judgment, wrong though it may appear to be if you belong to some narrow clique, is roughly sound.

The reason for this is simple. The sayings, the doings, the comings and goings, of the poet, together with portraits of himself, his wife and family, are blazoned in the Press, not because the average man wants to read about them, but because the publisher wants the average man to buy the poet's works. Autobiography, social snippets, and, finally, biography, keep him in the limelight. His friends write to the Press to inquire who wrote some line or other that they confess is running in their head but of which they cannot locate the author, and some obliging relative hastens to supply the name of the writer and publisher, whilst she thoughtfully does not forget the published price.

It is not contended that that system produces literature, any more than a similar state of affairs would make architecture. It does, however, cause the man in the street to talk and think in a familiar way about people and subjects that are really quite beyond his ken. If the "puff" paragraphs were all he had upon which to base his estimate there would be nothing to urge in their favour, but they are not all; side by side with this inspired information can be read keen criticism of the writer's imperfections and stupidities, in which his merits are assessed quite apart from any question of personal charm or brusqueness, social standing, or inferiority. Thus, sound criticism acts as a deterrent to incompetent work, and, like weeding, improves the plants that remain in the garden after the hoe has performed its task.

The sister arts of painting, music and sculpture are all very much in the same case, and so far as publicity is concerned they have one advantage in common that lends itself to advertisement in that they are all easily reproducible. Being methods of expression of emotion, they appeal to the ordinary man who cannot enunciate a philosophy, but who recognises one when it is formulated for him. Although architecture is as expressive as any of the arts, and capable of producing a like emotion in the beholder, it is difficult to advertise because the emotion is incapable of multiplication, it is so often anonymous, and always inarticulate. It cannot be too often pointed out that our art is a reflex of society in all its diversity. Pompous banks, parsimonious churches, mean streets, are as significant as otherworldly cathedrals or Roman walls; they mark but years of human struggle and endeavour. They are not finality or perfection; what beauty they possess is in their appositeness; what deformity they reveal is not of themselves but of the body politic—without respect for race or creed. Once he grasps this the average man will see with knowing eyes, and read the message in the silent stone.

Genius is in no need of advertisement—it thrives in adversity and fades in prosperity. If it has a message to give it is delivered. It is to lift the level of mediocrity that is the function of publicity. It is to assure that the artist shall have an instructed audience, and not perform to empty benches for his own delectation. If architecture is to interest it must not be so shy, the anecdotage of the profession must not be confined to the omitted staircase, the bill of extras, or the unfortunate victim of Whistler's peacock room.

There are vivid enough personalities amongst our contemporaries without troubling to revisit the shades of Phidias or Cheops for illustration; they are dead, and it is up to us to show that we are alive. For the structure of society, the mentality of the people, has changed since architecture occupied the position of the mistress art and was attended upon by the other arts as handmaidens. It is no use to try to put back the clock. We must adopt the methods of our times, and if we want advertisement we must tolerate criticism.

CERTOSA · FLORENCE ...
*From the banks of the Greve.*

**Wellhead, Certosa : Di Val D'Ema.**

## COMPETITION NEWS.

### Birmingham.

For the War Memorial Committee.—Designs for a war memorial. Sending-in day October 12. (See our issue for June 17.)

### Cairo.

For the Egyptian Government.—Designs for the new Qasr el' Aini Hospital and School at Cairo. Sending-in day, October 3. (See our issue for April 8.)

### Chelmsford.

For the War Memorial Committee.—Designs for a war memorial. First premium, £10 10s.; second premium, £5 5s. Sending-in day, August 31. Further particulars from Mr. R. C. Knight, Secretary to the Committee, Municipal Offices, Chelmsford.

[Members of the R.I.B.A. and the Society of Architects are advised not to take part in this competition as the conditions are unsatisfactory.]

### Paisley War Memorial.

The Paisley War Memorial Committee have decided on a competition, open to architects and sculptors, for a suitable memorial to commemorate those who fell in the war. Plan and particulars and conditions of competition will be supplied on application to the Town Clerk, Paisley. Premiums offered: (1) £250; (2) £200; (3) £150. Assessors: Sir Reginald Blomfield, R.A., and Mr. D. Y. Cameron, R.A.

### Partick.

For the War Memorial Committee.—Designs for a war memorial, at a cost of about £2,000. The author of the design placed first will be appointed to carry out the work; second premium, £20; third premium, £10. Sending-in day, August 27. Further particulars from Mr. James Arthur (Honorary Secretary), 173, Byres-road, Glasgow. Members of the R.I.B.A. and the Society of Architects must not take part in this competition until the conditions have been approved.

### Wandsworth.

For the Wandsworth Borough Council.—Lay-out schemes for a park and recreation ground. Sending-in day September 5. (See our issue for June 17.)

### Wolverhampton.

For the War Memorial Committee.—Designs for a war memorial. Sending-in day, August 13. (See our issue for May 13.)

# HOUSE BUILDING AND SUBSIDIES.

## BY A HOUSING ARCHITECT.

THE following article is by a housing architect of considerable experience, whose views we are glad to publish although we do not necessarily agree with them :—

The recent Government change of front on the question of Housing has been duly seized by the National Federation of Housebuilders as an opportunity for propaganda. The moment is an auspicious one in which to plead for "a return to private enterprise" as the country as a whole is certainly tired of an excess of State and Municipal undertakings, but in the ancient rede, "*Timeo Danaos et dona ferentes*," there lies a warning which is particularly apropos. It is, in view of the statements which have been made, incumbent on anyone who is in a position to lay the facts before the public, to do so lest our last state should be worse than our first, and lest, having squandered £60,000,000, we should leave our governors to throw away further sums which can ill be spared with no surety of obtaining value for the money.

To clear the ground it must be stated definitely that neither the housebuilder nor the State nor anyone else, can *at the present time* build a house which can be let at an economic rental, offer a fair return upon capital and be within the reach of the artisan. Further, it must be remembered that *houses to be rented and not houses for sale* are the crying need of the country.

The following figures will shew the actual position, and though generally stated can easily be adapted to the values of any particular district. In every case they have been taken from districts in which the "A" or highest rates of building trade wages rule, because it is in these districts (the great industrial centres, such as London, Liverpool, Birmingham and Manchester) that the need is most urgent.

The Ministry Parlour Type House has an average floor area of approximately 800 sq. ft. of available room space and a cube of about 12,000 cub. ft., and even the best recent tenders have hardly ranged below £750, or 1s. 3d. per cub. ft. Non-parlour types which have been tendered for at £600 work out at about the same price per cub. ft. Offers from housebuilders to build to their own plans and specifications are recorded at figures ranging from £550 to £650, according to the accommodation provided and cube out at prices which vary between 11½d. and 1s. 2d. per cub. ft. On these figures even if the, only too valid, objection to the rows of mean houses in mean streets be waived and the housebuilder left to his own old bad way, it can fairly be assumed that he cannot hope to build houses at less than £500 a-piece, to which must be added the cost of the land at some £50 a plot on a developed site, or £550 in all. Urban rates stand at figures which range from 6s. to 18s. in the pound—abnormal rates such as Norwich being excluded—and if a mean of 12s. is taken for the sake of argument it will be a fair choice. The following figures can then be taken :—

(i) If the builder or the financier behind him were content (which is unlikely) with 6 per cent. return on his bare capital and with no allowance for depreciation, recovery of capital, maintenance or management, the tenant would have to pay 12s. 8½d. per week exclusive of rates, or approximately 18s. a week inclusive of rates, water rate, &c., the rates being taken at 12s. as suggested above.

This, however, leaves the capital sunk, and would require a philanthropist, rather than a financier, behind it.

(ii) As a business proposition, providing for all outgoings and for recovery of capital in the Government loan period of 60 years, the inclusive rental with rates at 12s. will be almost exactly £1 6s. 2d. a week, a figure which is entirely beyond the present means of the average artisan.

On present rates of wages after taking into account the general cost of living, 15s. inclusive rental appears to be the maximum that the artisan can be expected to pay, and for this on a 60 year loan period (other factors being the same as in the former example) only £320 of capital is remunerative and available for land and house, leaving £230 to be found for which the rent will provide neither interest nor repayment. This is the identical sum of the present subsidy on the smaller houses of this type and presumably it represents the subsidy which the Housebuilders' Federation lay down as necessary to enable the industry to proceed.

There is, however, a factor of which the housebuilders make no mention in their manifestos, but which really governs the whole situation. It is that in the past, as in the present under the Subsidy Scheme, the housebuilder built primarily *to sell* and not to let, because his capital being, after all, limited, he could not and cannot afford to tie it up in ownership, and even with a £230 subsidy as suggested the remaining capital will still have to be found somewhere other than among the housebuilders themselves. It may be urged that in the past there was no great difficulty in finding purchasers, who looked upon the acquisition of small house property as an investment; but legislation since 1910 and the precedents of the Rent Restriction Acts have practically stopped the flow of capital from the sources that once provided it, as the prospective investor not unnaturally looks askance at a security the interest for which has been controlled by Parliament to the owner's detriment.

The solution for this difficulty, which has been urged by certain leading lights of the housebuilding industry, is that the municipalities should play the part of the investor and buy the houses when erected, and so finance the industry, and since the proposal is a specious one it will be well to examine it closely. Put baldly, it amounts to a scheme under which the builder is to provide an article the manufacture of which is to be directly subsidised by the taxpayers, whilst the capital for its production and the profits of the industry are to be found by the ratepayers, and the quality of the article is to be whatever (within the wide limits of the local by-laws) the vendor chooses to give, his expenditure on the article he sells and the profits on the deal being uncontrolled. I submit that this would indeed be finance gone mad, yet such a solution is being urged almost daily in the Press, by persons directly interested in the industry, under the plea that it is only by the free action of private enterprise that the housing needs will be met.

So far, then, the solution is yet to seek, and I suggest that it would be best found in a compromise of the kind natural to our national genius under which a sane control is combined with a limited liability. That some restriction or control of the homes to be built, will, I fancy, be admitted by all whose interests are not bound up in the mere production and selling of houses. Neither the Housebuilders' Federation nor the interests behind the industry—charm they never so wisely—will ever convince anyone with any care for the health and welfare of the community that the small house production of the past, the miles and miles of streets in our great cities, made for the moral or physical health of the nation. The miles of streets, the overcrowding of 40 and 50 houses to the acre, can be controlled

**Lingfield War Memorial.** MR. A. B. HAYWARD, Architect. (*See p.* 193.)

**Lingfield War Memorial.** Mr. A. B. Hayward, Architect. (*See p.* 193.)

by the Town Planning Acts, but the quality of the work in them can only be guaranteed by supervision during their erection, and it is on lines that will ensure this that the solution must be looked for.

This might well be found on the following lines :—

(1) That a definite annual sum should be voted by Parliament to be paid out in subsidies or grants-in-aid to the municipalities themselves ;

(2) This subsidy should be paid on completed houses only and allotted on a sliding scale which would vary as the cost of building changed. The subsidy to be equal to the difference between the capital outlay required and the actual capital sum which can be covered on a businesslike basis by the economic rental. Under such a scheme estimates would be submitted by the local authorities to the Ministry of the number of houses for which they are prepared to raise local capital to provide the basis of the rental, and the Treasury would state how much it was prepared to allot to each locality for the ensuing twelve months as a grant-in-aid to make up the difference between local capital and the total sum required. The municipality could then frame its programme whilst the Treasury would only incur the fixed liability sanctioned by Parliament. Under such a scheme the municipality would be directly interested in securing the best quality of article at the minimum cost because the rental obtainable and the maintenance charges must of necessity be largely governed by the quality of the work, whilst the Government liability would be absolutely confined to the amount allotted.

Against such a scheme there are two arguments which at once occur.

Firstly, that it still allows municipal building. The answer to this is to be found in the previous lines, and is briefly that private enterprise cannot meet the demand unaided, and it is contrary to public policy to pay public monies to private persons, unless the services for which such monies are paid are subject to the closest scrutiny. The Municipality in this case would be the employer, and would insist on value for the money paid, whilst the money paid would still directly foster the industry.

Secondly, it may be urged that the subsidy from the taxpayer to aid the ratepayer is but robbing Peter to pay not Paul but Peter himself.

Against this it can be fairly pointed out that the need is not only local but National, and should be met out of National resources. Labour is fluid and the movement of it to meet the demands of the market is of National value, and should not be impeded by leaving the housing of the labour necessary for production to be cramped by local capacity to finance.

One last remark is needed. The Housebuilders Federation has laid great stress on the houses produced under the subsidy, claiming that in this way they have proved their capacity to meet the need.

The quality of the work has already been emphasised, and the writer, having had the opportunity of inspecting a number of "subsidy" houses would suggest that these in themselves show the need for supervision and control in this direction. Apart from the fact stated above that these houses have been built to sell and not to let, and have in that way not been a serious contribution to the shortage of houses for the artisans, the following figures are instructive as showing that the class of house built has not been that for which the Housing Scheme was devised. In one large city out of some 725 Subsidy Certificates "A" granted to date, only 76, or about 10 per cent., are for houses which could be described as houses for the working classes under the recent scheme. In addition to the 76, certain bungalows might be brought into account, but even then the percentage would be not more than 35 per cent. The subsidy has, in fact, been used to provide the profits for a class of work which does not meet the greatest need. It must also be remembered that if a subsidy is paid as suggested to the local authority, that authority will employ the industry, but as employer will secure that the article produced is that which is required.

"Housing Architect."

## DEPARTMENT OF PUBLIC WORKS, NEW SOUTH WALES.*

As might be expected in a land subjected to the periodical recurrence of dry seasons, water supply shows itself to be the most expensive item of public expenditure in New South Wales, for drought in Australia does not mean the same balmy weather that goes by that name in England. There, money spent on water supply is in the nature of an insurance premium against possible loss after a succession of bad seasons. The sun itself stands guarantee that the policy will be "with profits," for, given water, the more the sun shines the more the crops grow. Whether it is that the people of the Dominions are more inclined for adventure and enterprise, or whether a more vigorous climate spurs on the Briton to protective activities, the practical schemes for water supply, hydro-electric power, hospitals and clinics, harbour and river works, all show that the New South Wales Legislative Assembly deems it expedient to give the public something practical in the way of labour-saving devices. It is true that a great many Australians object to the cost of these things, but people at home get just as querulous over the prospect of paying for the new handle for the parish pump.

In English districts more populous than those of Chichester (N.S.W.), where a dam to discharge 8,000,000 gallons a day is under construction, it is usual for the village women to wait their turn at a reluctant and trickling spring, or, in default of a common saw-bench, to be condemned to hack up firewood by hand when the bread is ready for the oven. Those who delight in human conquest of adverse natural conditions will find the Report, with its beautiful photographs of bush scenery and of works in progress, most stimulating reading.

### A New Thames Tunnel.

The support of the Government is being sought for a scheme estimated to cost £5,000,000, for a new railway tunnel under the Thames between Gravesend and Tilbury.

* Report of the Department of Public Works, New South Wales, for the year ended June 30, 1920.

## HOUSING, THE BUILDING TRADE AND LABOUR.

We have received the following letter from Mr. John E. Yerbury in reference to our leading article of July 29 last. He quotes our remark: "We have no interest in political fencing and its half truths." And proceeds:—May I suggest that the only method of raising the whole truth from the bottom of the well is by plain speaking Dr. Addison is depicted as a martyr and seems quite prepared to wear the crown. Allow this, and what becomes of any real effort at reconstruction? The late Minister failed as no Cabinet Minister has ever failed before. Let us be honest. Dr. Addison is not a martyr. Sir Alfred Mond and his advisers are not heroes. They found a "mess" and are anxious to get out of it, and don't intend to risk a Government defeat by any quixotic action on their part to redeem pledges. The only question asked is: "What will the politicians say?" And the reply is: "Anti-waste stunt."

Now, Sir, I suggest let the building trade put its house in order, and since the Government don't know what to do we may then be able to show the way. Two essentials to success were ignored by the Ministry of Health:—

(1) Cheap houses can only be obtained by the united effort of the building trade—architects, builders, workmen. The Ministry of Reconstruction should have concentrated upon this, but did not.

(2) Housing of the workman in receipt of low wages had been shown to be impossible long before the war, partly because rates pressed too heavily upon small properties.

The Land Enquiry Committee Report, 1914 (2 volumes) and Lord Balfour of Burleigh's Committee Report, 1901 (5 volumes), together with the reports of the various Public Utility Societies for many years before the war, were open to the Minister of Reconstruction.

When Mr. Lloyd George defended Dr. Addison as Minister without Portfolio, the subject of Rating was mentioned as the only special purpose for his retention of office. He thought of rates four years after the urgent necessity for action. Neglecting the building trade and ignoring the question of rates, was it possible to succeed in providing homes for heroes?

At the R.I.B.A. Conference, May, 1919, one might have been excused for hoping that a better understanding would be arrived at by the Joint Committee appointed; upon reading the Foster Report, I, for one, felt convinced that the building trade would take a lead in real reconstruction. What is the Joint Committee doing? Is the Foster Report dead? Whitley Councils, industrial maintenance, the better understanding—have all these disappeared with the Building Trade Joint Committee and the Foster Report—and disappeared for ever? If so, what is the inevitable comment of Labour? "When we are strong and industry flourishes, we are promised 'Utopia,' but when the profits are made and industry is dull, and we are too weak to fight—then we may be damned." Has capital—or the employing classes—an adequate reply? I think not. If, in the slack season, we do not organise and come to fair and reasonable terms, are we likely to do so when trade revives? Now is the time for conference and settlement. If the building trade is wise it will come to a national agreement on the lines of the Foster Report. With such a settlement the golden age would be truly before us, but architects, surveyors, builders, and men employed in the building trade with all the dilutees, would be necessary to get the work done.

If the building trade would only set out on the lines of the Foster Report, there is sufficient work to keep us all occupied for the rest of our lives; and I will undertake to say the output per man would be so increased that while the employee was assured the employer would reap greater profit than he can hope to attain under present conditions. The only alternative that I can see is the displacement of the employing class by an extension of building guilds on a really national scale. There is no doubt about the success—in fact, the triumph—of building guilds, so long as they are supported by the men with the true spirit of co-operation. Are there a sufficient number of men, of the right spirit, to man the building trade? If so, employers have no time to lose, for unless they agree to a reasonable settlement on the lines of the Foster Report, they will find themselves without employees. After all that has been said and written about the old days before 1914 and the change to come under reconstruction at the end of the war, it is futile to suppose that the worker is going back to the old conditions without protest. Recent events have shown the weakness, future events will show the strength, of labour combinations, unless wise and prudent men guide our trades and industries to a settlement of differences and to real and lasting peace. I don't know anything about other industries, but I am sure that the proper spirit on all sides—the spirit of the 1919 Conference—would lead to peace and prosperity in the building trade.

With that achieved, with a united building trade producing houses at a proper cost in labour, profiteering in building material would be prevented; and with rating reform carried out at the same time, it would not be difficult to settle the housing question as it should be settled, *i.e.*, by the provision of houses fit for the rearing of future heroes. Now is the accepted time, let us prevent the threatened strike on September 1 by wise action at once.

## A NEW SUGGESTED SCHEME OF AID TO BUILDING.

By E. J. Frewen.

If the Government and the Local Housing Authorities conjointly adopted the following new method of assistance to building operations, and otherwise left the building trade largely to the exercise of its own initiative and enterprise, the 300,000 additional homes needed to complete the Government's National Housing Scheme would be certain to be quickly and economically built with the minimum of loss to the State and the Municipalities.

The new method is:—

That the Government and the Municipalities should each make a loan advance of £150—or, £300 in all as against the building of each new five roomed house or flat erected to the requirements of the Ministry of Health, and that the advances be made subject to the following conditions:—

(a) That the amounts be secured by a conjoint first charge on the property involved until repaid by 30 annual instalments of £10 each;

(b) That no interest be charged on the advances; and

(c) That the rental charge shall not be more than 15s. per week for the housing accommodation provided in each such house or flat.

Advances made under these conditions will assure the State and the Municipalities beforehand that the assistance afforded will have the effect in every case of providing cheap housing accommodation, and in order to make the accommodation provided pay interest on the supplementary capital required to complete the requisite buildings, the building trade and speculative builders between them will have to so bring down building costs as to make building operations again, with the aid of advances, into an economic proposition.

The obligations on the State and the Municipalities under the new suggested method will be found to be easily possible without straining the resources of either the State or the Municipalities.

In the case of the State, for instance, instead of the capital loss of something like £78,000,000 which would be involved in the paying out of the grants on the additional 300,000 houses required to be built to complete the Government programme of housing, the loss of interest only on the amounts of the grants outstanding at the end of each of the 30 years of the repayment period would have to be borne. This calculated at the rate of 6 per cent. would only amount in the first year over the building of the 300,000 badly needed additional houses, to a sum of £2,700,000, a figure easily budgetable for, and this loss will be less by £150,000 in the second year, less by £300,000 in the third year, less by £450,000 in the fourth year, and so on by proportionately diminishing amounts as the advances are repaid back.

**Seal of the Priory of Walsingham.**
(*See* p. 193.)

In the case of the Municipalities, these under the new suggested method would only lose the interest annually on the outstanding amounts of the £150 advance per house, that is to say an annually diminishing loss. With the Municipalities, moreover, the incidence of the charge would be largely obviated even from the first, because of the receipt of supplementary rates and other Municipal charges levied upon the new house property that would be created through the carrying through of the building programme involved in the respective Municipal areas.

This new suggested method should therefore, and as a mere matter of economics, recommend itself to both the State and the Municipalities, and particularly so as through its adoption it seems clear that the housing accommodation urgently needed by the country's workers, and in the provision of which both the State and the Municipalities have such a direct interest, can be, quickly, rightly and most economically provided.

This will most certainly be the case if building efforts under the new method are largely devoted to the erection of blocks of flats in or near to the large industrial centres, that is to say, providing the kind of home which is found by experience to be most economic and suitable for workers in all industrial countries, and notably in the United States and Germany. Thus, at least, will be saved all the money and energy that up to now has been squandered and largely wasted upon what seems to be the largely unnecessary attempt to provide the homeless not only with houses, but with plots of land also, in a series of suburban Garden Cities, far removed in the majority of cases from the centres where the workers earn their living, and consequently the most expensive places for workers to get from and back to daily.

Thanks to new approved and more economic systems of building, now and from this time forward certain to be generally used, and particularly applicable to flat building, the figures of cost are bound to be brought down materially in a very short time, but even as it is, the speculative builder will have every inducement to again embark capital in flat building propositions if he receives £300 free of interest from the State and the Municipalities by way of a repayable loan over the erection of each house or flat and has only to provide in cash the balance of the gross cost. Reduced to a flat building proposition, the provision of the additional required 300,000 homes for workers in these countries would be found to be a relatively simple matter, as it would merely mean the building of 6,000 blocks of flats each comprising 50 flats of 5 rooms each.

## Leading Contents.


| | PAGE |
|---|---|
| THE CONTROL OF ADVERTISEMENTS BILL | 183 |
| A FINE EXAMPLE OF MONASTIC PLANNING | 188 |
| THE ARCHITECT IN FICTION | 188 |
| THE USE OF ADVERTISEMENT | 189 |
| HOUSE BUILDING AND SUBSIDIES | 190 |
| HOUSING AND BUILDING TRADE AND LABOUR | 192 |
| NAVE EXCAVATIONS, RIEVAULX ABBEY | 196 |
| RATING NEW HOUSES AND CONVERTED FLATS | 199 |
| HOUSING SCHEME AT WELLING, KENT | 200 |
| NOTES FROM SKIPTON AND BOLTON | 203 |
| FIRE TESTS ON COLUMNS | 203 |
| THE BUILDING TRADE | 204 |


## ILLUSTRATIONS.

### The Old Dairy Farm, Edenbridge.

The late MAURICE POCOCK, Architect.

This old house has been rescued from destruction by an architect whose knowledge and appreciation of old English building has been rarely equalled. During many years past the late Mr. Maurice Pocock might be seen on his "bike" scouring the countryside for sight and study of old buildings. In his keen judgment he was a merciless critic of such modern building as was the result of no inspiration and no ideal. He may have gone to the other extreme in his appreciation of the rough and homely work done by our old craftsmen, for in this old Surrey farmhouse, as we see it restored to-day, every bit, both old and new, is as homely and simple as the old builders would have made it, and it is indeed not easy to see where the old ends and the new begins. From the road, at first sight, it simply looks like a really old building tidied and patched up in all directions, and the character is so well maintained that the entirely new chimneys and windows convey no sense of intrusion or newness and the picturesque charm and adaptability of the plan to the making of a delightful country house make it difficult to believe that such a valuable relic of former times has been saved from the very jaws of death to a beautiful and useful existence.

The chief feature of the building is a half-timbered hall some forty feet by twenty-eight and forty feet high. This has an open timbered roof with a fine king-post truss and moulded tee-beam supported by curved, moulded braces; the king-post, with its cap and curved brackets to the collars, forming an interesting feature. This hall had been used as an eight-roomed dwelling with two floors before restoration. Our sketch, from the end gallery, shows how it has been adapted to a delightful living apartment; it forms the centre of charming views from the parlour (or ingle-room) and from the front entrance. A sketch is given of the latter, showing the interesting perspective of woodwork which forms the stairs and gallery. The varied tone and texture of the exterior, due to the silvery grey oak joining the warm stone and the red bricks and tiles are very pleasing. When the garden surroundings are completed it will be difficult to imagine a more attractive picture of an old English house, and many who see it will share in the pleasure which its owners have obtained in saving so valuable a relic of old English craftsmanship.

There is more here than the interest of a cobbled-up old building, for to the eye of the architect the additions to the old work have made the completed building into a picture of real charm, with architectural qualities of pleasing proportions and nice accentuation. This is, however, what Pocock would have been the last to claim for his work.

T. RAFFLES DAVISON.

### Memorial Tower.

We also illustrate this week a design for a war memorial tower, by Mr. Walter Tapper, F.R.I.B.A., of St. John's Wood, N.W. The tower would be erected in Portland stone, and the cupola covered with copper.

### Butleigh War Memorial Cross.

This cross is erected at the cross-roads upon high ground above Butleigh, at the point where Glastonbury Abbey, about five miles away, first came into view to pilgrims from the south. The old cross base and foundations were *in situ*, and part of the stem and base have been re-used precisely as found. The stem with its figure has been carefully studied to perpetuate a local type, both in its detail and proportions, and the spreading base is founded upon the best Somersetshire examples extant. The figure upon the stem represents St. Leonard, the patron saint of prisoners, to whom Butleigh Church is dedicated. There is a figure of the Virgin at the back of the cross.

Mr. W. D. Caroe, F.S.A., F.R.I.B.A., of Westminster, is the architect. The building work was executed by Mr. John Merrick, of Glastonbury; and the sculpture by Mr. N. Hitch, of Kennington.

It is interesting to note that, as the promoters were early in the field, before the rise in wages, the whole work was completed for the modest sum of £300, the stone used being Doulting, from the Chellynch beds.

### Design for a Village Sign.

Walsingham, in Norfolk, now only a small town of 1,000 inhabitants, was world-famous in the Middle Ages as the home of the miraculous shrine of the Blessed Virgin, to which a stream of pilgrims journeyed from all parts of the world during 400 years. The image of the Blessed Virgin which the shrine contained was taken to London and burnt after the dissolution of the monasteries, and the only record which remains of this image is on the seal of the Priory of Walsingham, attached to the Canons' acknowledgment of the Royal Supremacy, preserved in the Chapter House, Westminster, and illustrated on page 192. This design for a sign represents the image of the shrine (taken from the seal) on the one side, and on the other side a procession of eight Kings of England who made pilgrimage with offerings to the shrine.

The sign illustrated has been designed for erection in this town, and would be painted on copper and mounted in a wrought-iron frame on an octagonal oak post painted white with blue arrises. The cost would be as follows: Sign, £100; frame, £50; oak post, painting, fixing, etc., £50; total, £200.

The design is by Messrs. Lofting & Cooper, of 44, Bedford-row, W.C., and Miss Frances Burlison is the sculptor.

### Proposed City Business Premises.

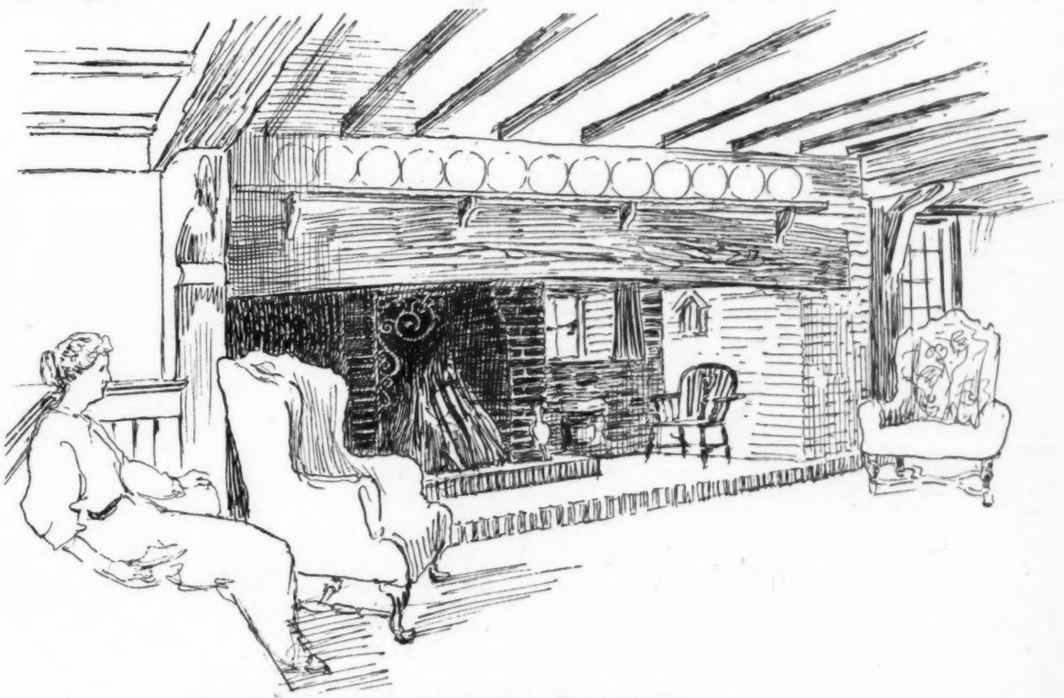
This Academy drawing illustrates the rather limited frontage of proposed new business premises in the city, the erection of which has been postponed. The proposed buildings cover a site 180 ft. deep and would have sub-basement, basement, ground floor and five floors above.

The design is by Mr. Horace Field, F.R.I.B.A.

### Lingfield War Memorial.

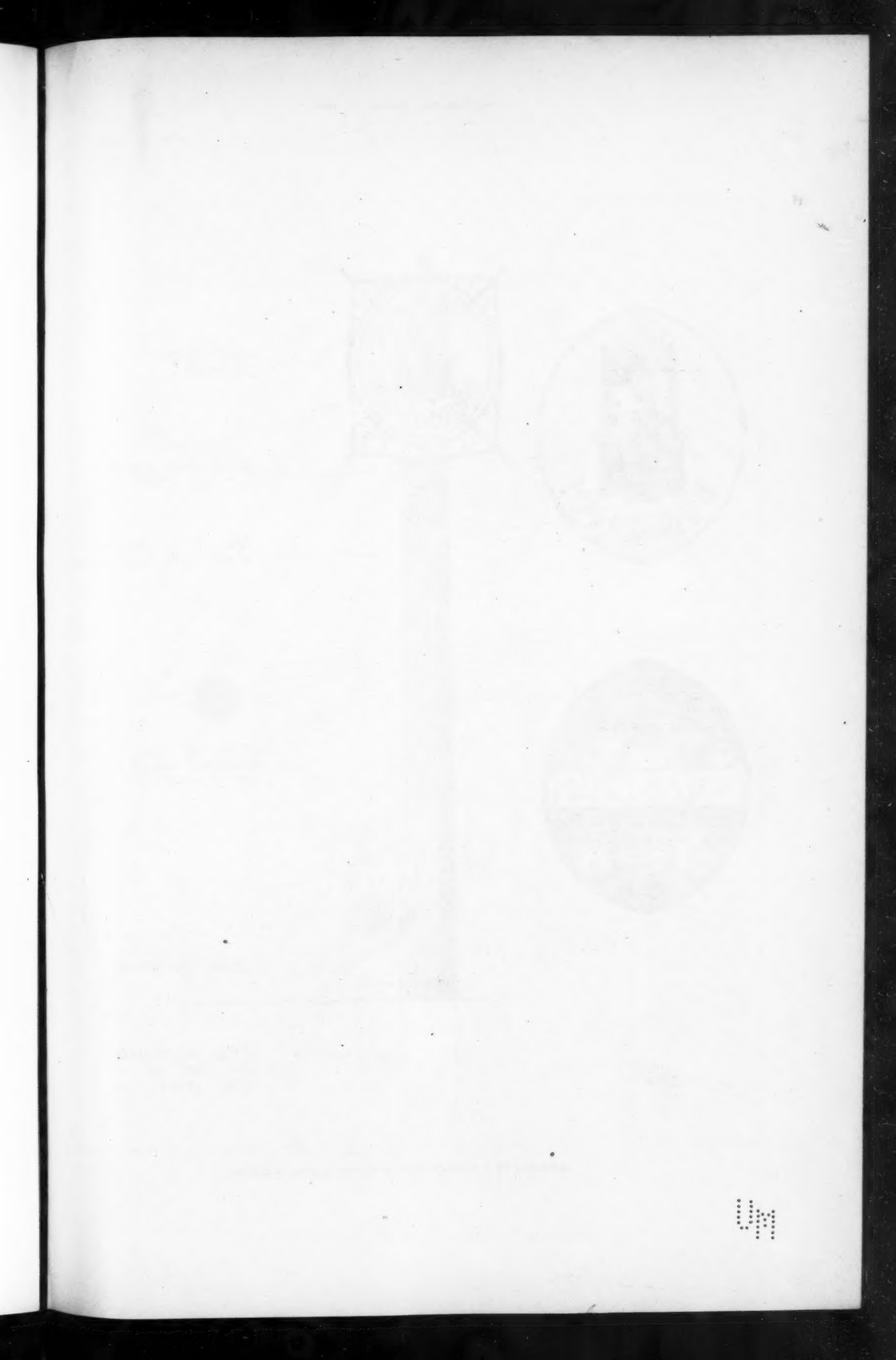
Erected by public subscription on a small artificially formed promontory projecting into the "Gun Pond" and situate in the centre of the village, the Lingfield (Surrey) war memorial (illustrated on pp. 190, 191) takes the form of a "Lanterne aux Morts," illuminated with gas, and is built of local stone from the Buxted Quarry. To the four faces of the die stone are affixed cast-bronze plates, each surrounded by an oak wreath, on which are inscribed in raised lettering the names of the fallen. A small sum has been invested in trustees under the Charity Commission, the income from which is to be expended in paying for the gas consumed and for the upkeep and maintenance of the monument in perpetuity.

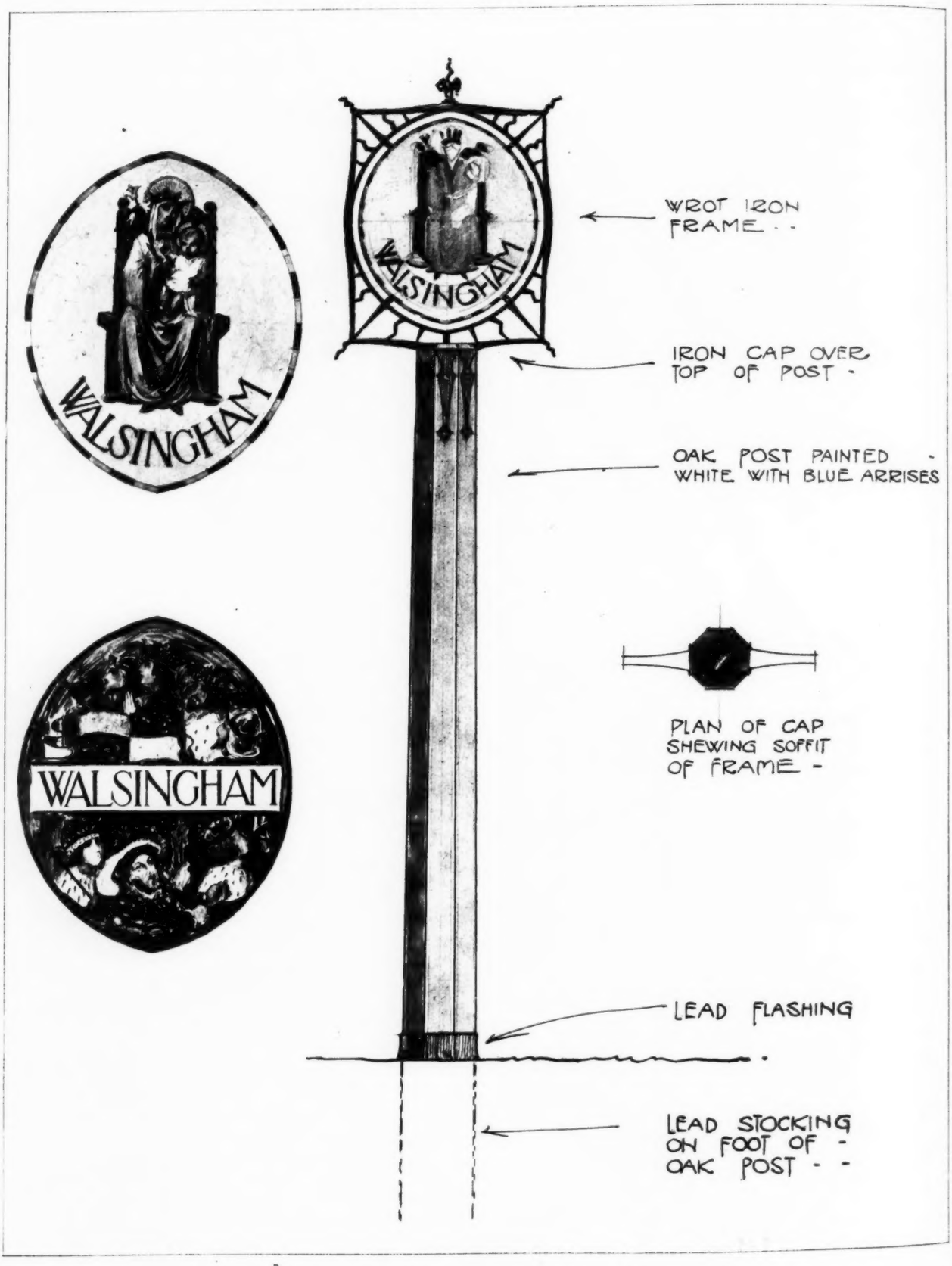
The idea and the design is that of Mr. A. B. Hayward (of Messrs. Hayward & Maynard, 14, John-street, Adelphi, W.C.), who acted throughout in an honorary capacity, and the whole of the work was executed under his superintendence by Messrs. John Daymond & Son, of 7, Edward-street, Vincent-square, S.W., at a cost of £439. The photograph is by Mr. J. Dudley Daymond?



**The Old Dairy Farm, Edenbridge: The Ingle Room.**

**The Old Dairy Farm, Edenbridge.** As restored by the late MAURICE POCOCK.




WALSINGHAM
WALSINGHAM
WROT IRON FRAME - -
IRON CAP OVER TOP OF POST -
OAK POST PAINTED - WHITE WITH BLUE ARRISES
PLAN OF CAP SHEWING SOFFIT OF FRAME -
WALSINGHAM
LEAD FLASHING
LEAD STOCKING ON FOOT OF - OAK POST - -

DESIGN FOR A VILLAGE SIGN, BY MESSRS. LOFTING & COOPER.

MR. WALTER TAPPER, F.R.I.B.A. ARCHITECT.

THE OLD DAIRY FARM, EDENBRIDGE.

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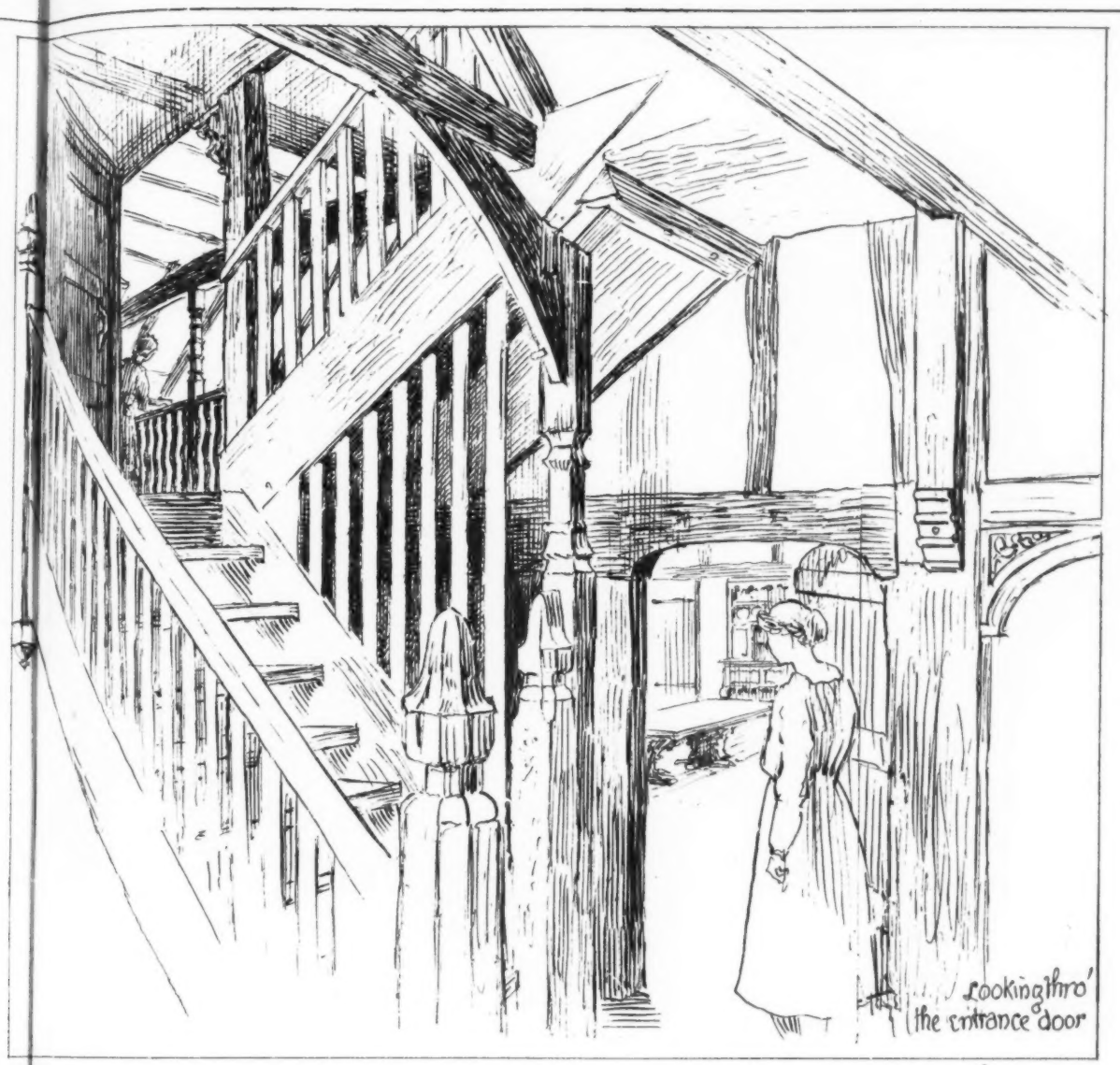
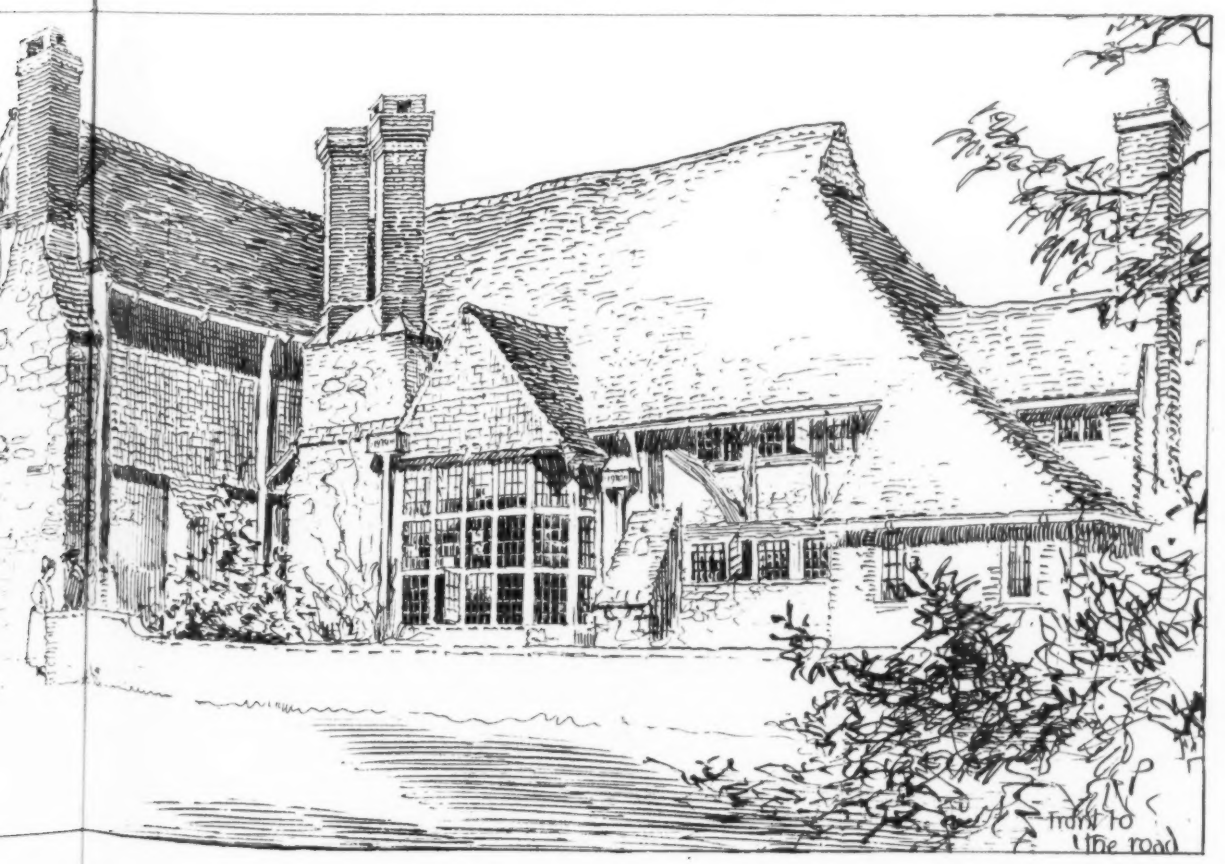
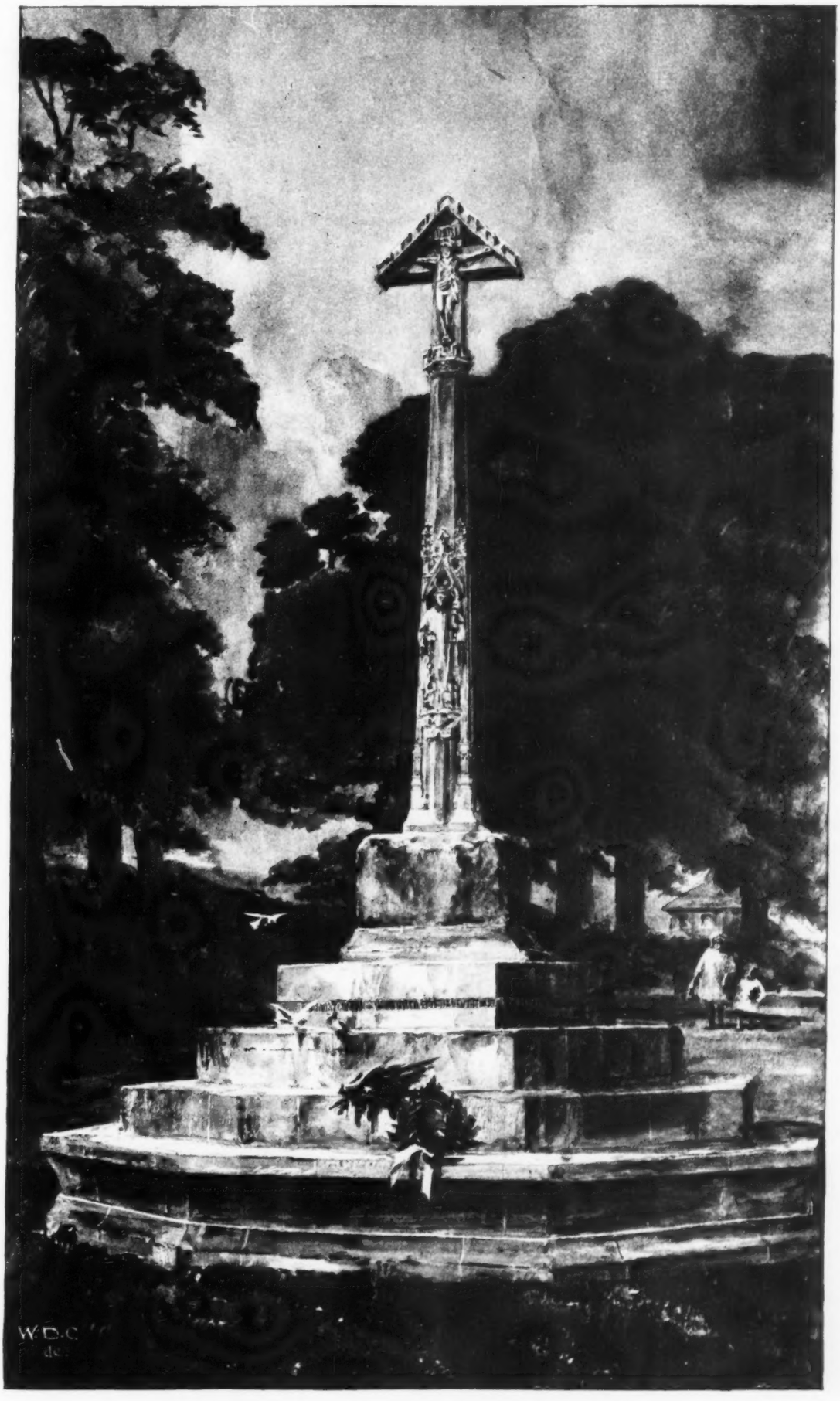



RIDGE. AS RESTORED BY THE LATE MAURICE POCOCK.

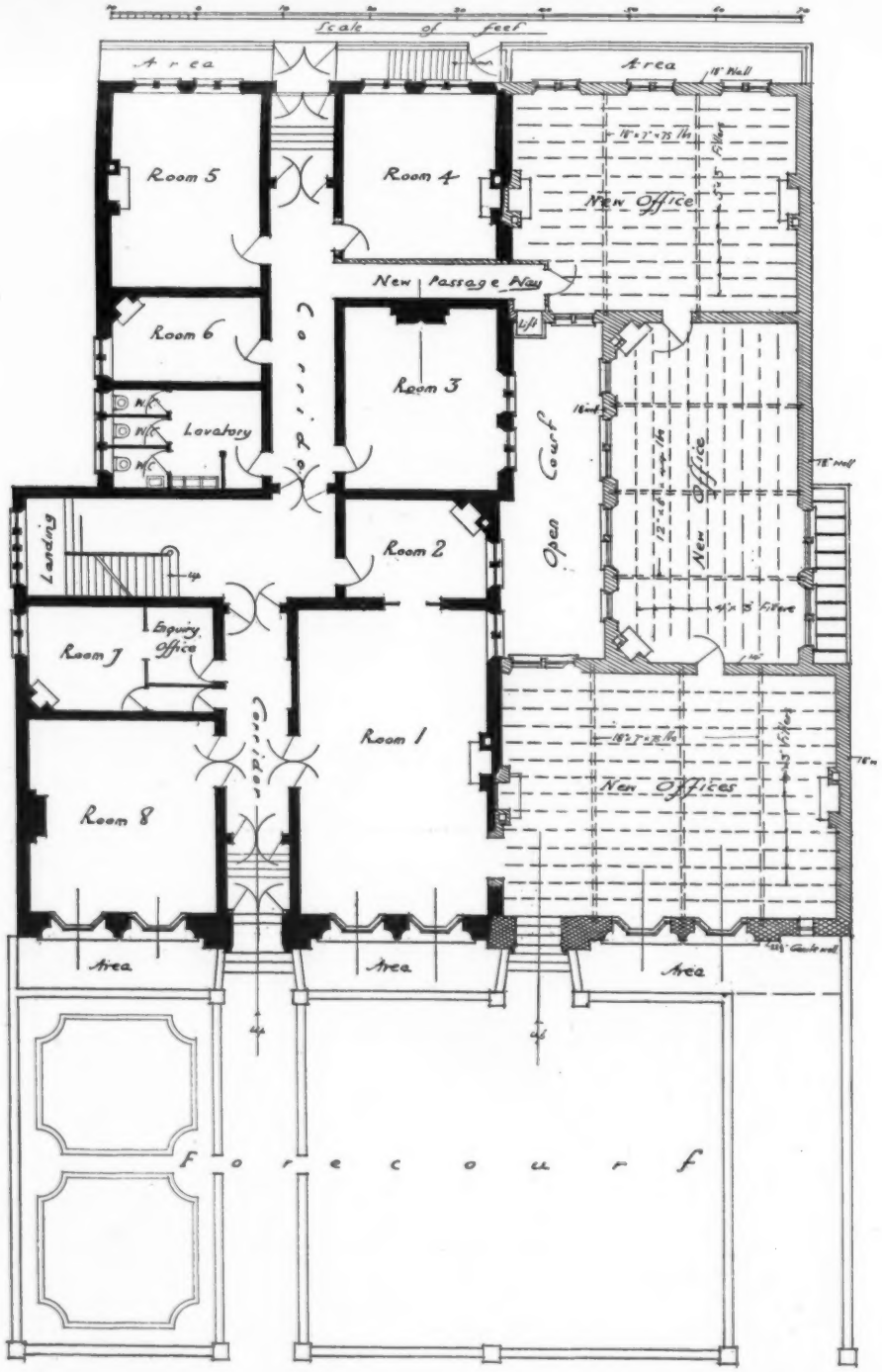
RAMBLING SKETCHES BY T. RAFFLES DAVISON.

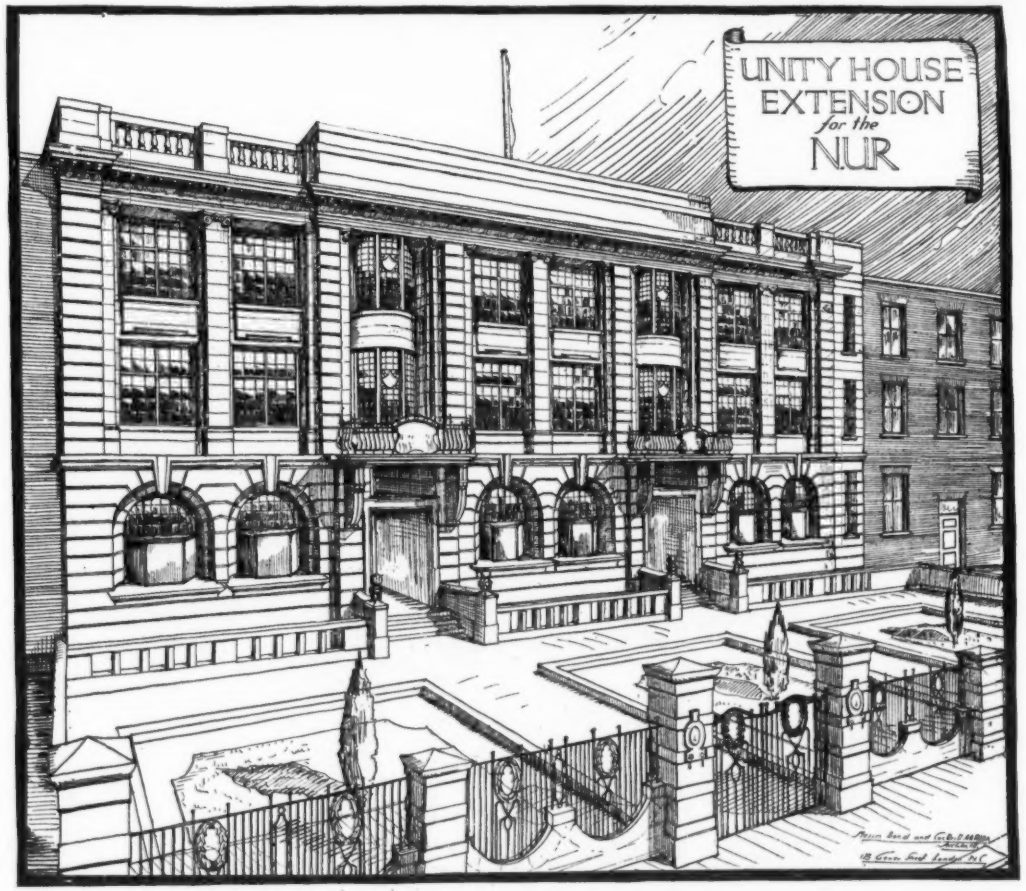



DESIGN FOR MEMORIAL CROSS. BY MR. W. D. CARÖE, F.S.A., F.R.I.B.A.

R.A. EXHIBITION.

PROPOSED LONDON BUSINESS PREMISES. MR. HORACE FIELD, F.R.I.B.A., ARCHITECT.




[Owing to the increasing activities of the National Union of Railwaymen it has been found necessary considerably to increase the office accommodation at Unity House, Euston-road, and property was purchased adjoining the present block of offices. The building consists of basement, ground, first and second floors, each floor of which is an exact replica of that illustrated. The front of the building is in Cornish granite, which is being supplied by Messrs. Boltons & Co. The construction is in steel and concrete, and as no bricks were allowed by the London County Council, except as a facing to the Gower-place front, the whole of the remainder of the walls are built in a specially-made concrete block. The architects are Messrs. Bond & Cockrill, of 115, Gower-street, W.C., and the work is being personally superintended by Mr. G. Scott Cockrill, A.R.I.B.A. The contractors are Messrs. W. Alban Richards & Co., whose agent, Captain White, D.S.O., is in charge of the operations. The heating and lighting and wrot-iron and other metal work is by Messrs. Strood & Co., the steel work by Messrs. Redpath, Brown; and the casements are being supplied by Messrs. J. Wragge.]

**Extension of Unity House.** Messrs. Bond & Cockrill, AA.R.I.B.A., Architects.

# NAVE EXCAVATIONS, RIEVAULX ABBEY.

By WILLIAM HARVEY.

THE excavations carried on at Rievaulx Abbey by H.M. Office of Works have brought to light the broken piers and walls of the nave, and visitors to the ruins will attempt to conjecture the appearance of the nave when the structure was completed in the twelfth century. Fallen stones found on the site may give some hint as to the arrangement of parts and the architectural character of the work, and by careful study of these fragments a geometrical reconstruction of the original design might be evolved that would bear critical scrutiny and comparison with the known works of similar purpose built at or about the same period.

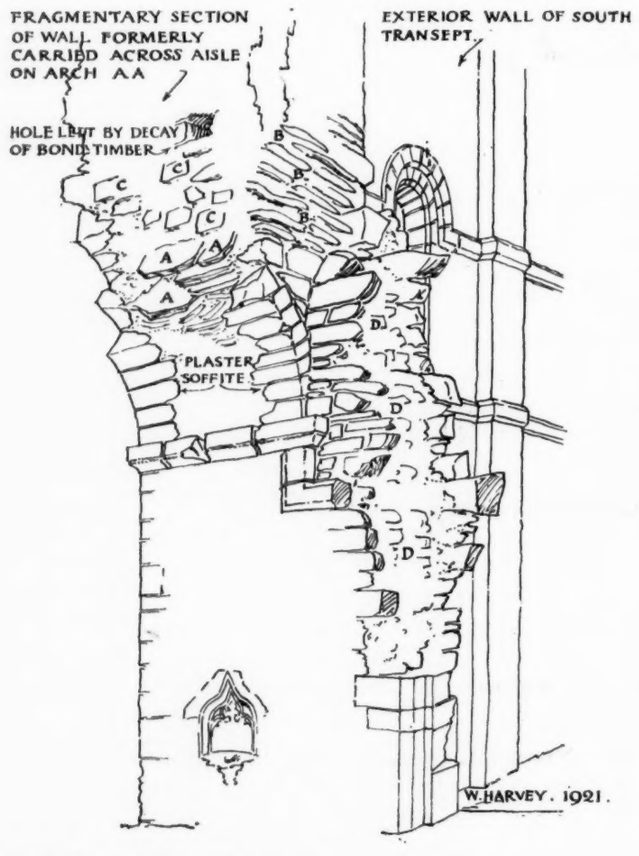
The earlier parts of the existing transepts, and particularly the ruined ends of their walls at the points of junction with the nave aisles, should be examined for any evidence they can throw upon the design of the nave.

Fig. 1 shows the better-preserved of these fragments, as seen from a point in the nave. The sketch indicates the character of the masonry with its squared Ashlar facings, the rubble core C C, D D, being visible in the middle of the broken walls. Rubble core of different dimensions and shape was used at A A to form the arch across the aisle from the south wall to the end pier of the nave arcade.

It may seem not unreasonable to suppose that similar arches spanned the aisle at each of the other nave piers, especially as voussoirs V, V, V (Figs. 2 and 3), and rough slabs have been found between the ruins of pier and aisle wall. At a slightly higher level than the rough slabs at A another series of similar slabs, B, B, B (Fig. 1) project towards the west end of the church, and by their downward inclination towards the west were evidently used for a similar purpose to that of group A: that is, they formed part of an arch or vault over one bay of the nave aisle—a vault with its axis at right angles to the axis of the nave, as can be seen if the profile of the slabs of group B, B, B (Fig. 1) is examined from the north. Great quantities of similar slabs were found on the floor of the nave aisle, and sprawling in heaps between the ruined piers of the nave arcade into the central nave. At the northern margin of these piles of rough slabs were found the facing stones W, W (Figs. 2 and 3) for arches, the arch ring having been formed of large voussions 1 ft. 9¼ in. in depth from intrados to extrados, and cut away on the lower exposed corner to form a splay 1 ft. 6 in. across.

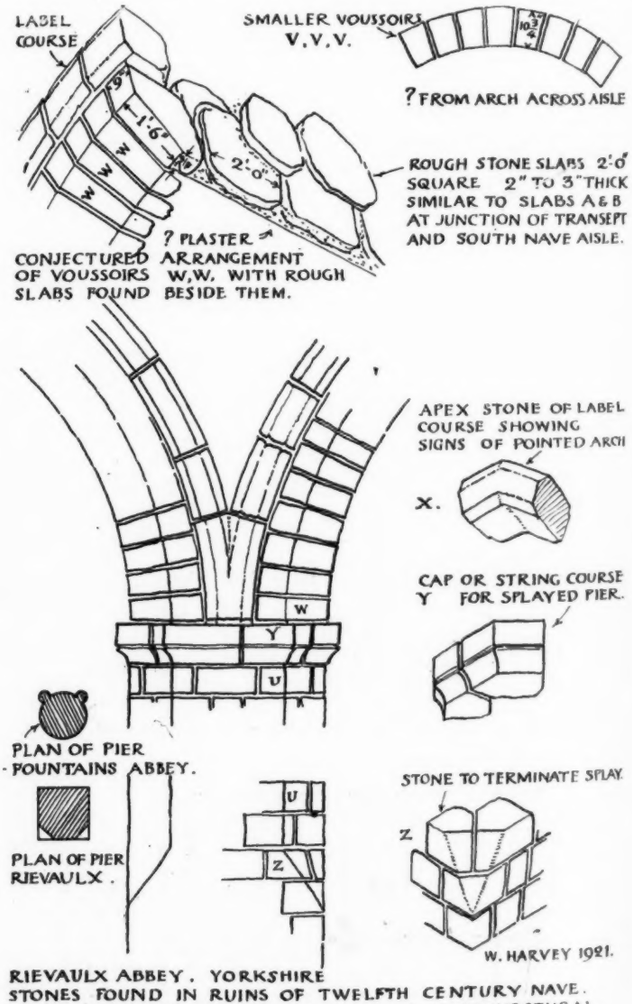
The voussoirs vary in thickness and in their degree of taper, making it difficult to conjecture the actual curve of the arch without measuring a great number and calculating the curve by taking averages. Such a calculation would be rendered difficult by the fact that in early work the mortar joints are by no means regular, and are frequently wedged-shaped to make up a deficiency in the stone voussoir. The large splay on the arch ring raises the question of the shape of the pier at its upper extremity. A moulded stone (Figs. 2 and 3) found near one of the piers is cut to a splay similar to that of the arch, and may be taken as indication that the upper portion of the piers was not square like the base, but that the splay was carried down and terminated at some intermediate point in the height of the pier.

A curious stone, Z (Figs. 2 and 3), may belong to the stopped end of the splay. The sketch shown in Fig. 3 is compounded of suggestion derived from the existing fragment, drawn on the spot (Fig. 1), and the stones taken from the ruins (Fig. 2). No attempt has been made to give dimensions for the heights of the several features, and it may be hoped that a careful survey of the whole material will be undertaken by some competent archæologist at an early date. It should be possible to determine by accurate measurement of all the data an approximate figure for the heights of piers; the position of stone Z; and whether the string course capital of the piers stopped at the voussoirs V, V, V, as shown


FRAGMENTARY SECTION OF WALL FORMERLY CARRIED ACROSS AISLE ON ARCH AA
EXTERIOR WALL OF SOUTH TRANSEPT.
HOLE LEFT BY DECAY OF BONDTIMBER
PLASTER SOFFITE
W. HARVEY. 1921.

RIEVAULX ABBEY. YORKSHIRE.
JUNCTION OF SOUTH TRANSEPT & SOUTH WALL OF NAVE AISLE PRESENT RUINED STATE. A, B STONE SLABS USED AS CORE FOR ARCHIVOLTS. C, D RUBBLE CORE INTERIOR OF WALLS.

FIG. 1.

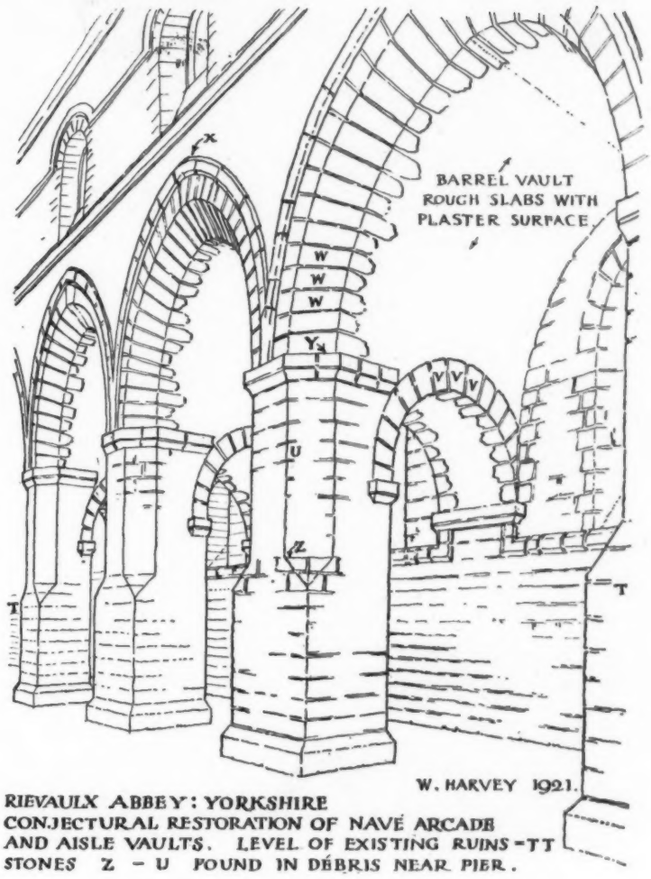

LABEL COURSE
SMALLER VOUSSOIRS V,V,V.
? FROM ARCH ACROSS AISLE
ROUGH STONE SLABS 2'0" SQUARE 2" TO 3" THICK SIMILAR TO SLABS A & B AT JUNCTION OF TRANSEPT AND SOUTH NAVE AISLE.
? PLASTER
CONJECTURED ARRANGEMENT OF VOUSSOIRS W,W, WITH ROUGH SLABS FOUND BESIDE THEM.
APEX STONE OF LABEL COURSE SHOWING SIGNS OF POINTED ARCH
X.
CAP OR STRING COURSE FOR SPLAYED PIER.
Y
PLAN OF PIER FOUNTAINS ABBEY.
PLAN OF PIER RIEVAULX.
STONE TO TERMINATE SPLAY
Z
W. HARVEY 1921.

RIEVAULX ABBEY. YORKSHIRE
STONES FOUND IN RUINS OF TWELFTH CENTURY NAVE. THEIR ARRANGEMENT ON THIS DIAGRAM IS CONJECTURAL.

FIG. 2.

on Fig. 3, or was carried over them and along the face of the aisle wall as an impost for the aisle window arches.

Commenced in the first austerity of the Cistercian rule, the simple masonry of the squared piers conformed to both letter and spirit of the instruction, to avoid ornamental building. The splay on the upper part of the pier has therefore a double interest in that it is the first sign of the noble revolt against the chains of dull uniformity in architecture. The piers of Fountains Abbey, later in date, show a further rise in architectural grace and falling off in obedience to the rule, and it is interesting to compare their plan, which includes a large circle with two smaller circles attached on the side next the aisle, with the simpler arrangement at Rievaulx.




RIEVAULX ABBEY: YORKSHIRE
CONJECTURAL RESTORATION OF NAVE ARCADE AND AISLE VAULTS. LEVEL OF EXISTING RUINS - TT STONES Z - U FOUND IN DÉBRIS NEAR PIER.

FIG. 3.

## BOOKS.

*Architettura Italiana Antica e Moderna.* By ALFREDO MELANI. 6th edition. Milan: Ulrico Hoepli. Price L.38.

FOR a work of this kind to reach a sixth edition surely constitutes a record, even in Italy, where public interest in artistic matters is noticeably greater than is the case here. This most popular of Professor Melani's books in the famous Hoepli series well deserves its success. Clear, concise, thorough, it combines scholarship with an attractive style, and, although intended primarily for the layman, it covers the ground so completely (no monument of any importance being omitted) that its value to students and to the professional architect is by no means small. The author's claim that sufficient matter is contained therein for a large history of architecture is not an empty one. In this new edition, which contains 300 illustrations, the text has been expanded, additional space being given to the modern section. The author's criticism of living and recently-deceased architects is very candid, and those deserving of censure are not spared. He combats the slavish adherence to tradition and the Italian mania for spending enormous sums of money on the erection of colossal edifices, such as the Victor Emmanuel monument at Rome, that are nothing but lifeless imitations of old masterpieces. He instances the strength of this reactionary and conservative spirit by citing the case of the stone and iron market constructed by Mengoni in Florence, which provoked so much opposition that sellers refused to use it for several years! Touching upon the building of houses and roads, &c., the author deplores the predominant influence of engineers, for whom artistic beauty is of small consideration, and he calls upon Italians, if they would still preserve the charm of their cities, to realise before it is too late the importance of combining beauty with utility. The root of the evil lies in the incomplete training of architects. The art schools, he states, turn out so-called "Professors of Architectural Design," but do little or nothing to develop originality and impart practical knowledge; no wonder, he says, that preference is given by municipal authorities to engineers whose technical equipment, at any rate, is more adequate. Let us hope Professor Melani's desire to see the establishment of schools entirely devoted to architecture may be fully realised, for is not the matter almost as vital for us, who are lovers of Italy, as it is for the Italians themselves?

*Rent Act Express Guide to the Increase of Rent and Mortgage Interest (Restrictions) Act,* 1920. Second edition. By the Editor of the *Liverpool Express Rent Bureau.* Published by the *Liverpool Courier and Evening Express.* 1s.

We have received a copy of this little guide to the Rent Act which appears to deal with this complicated measure in a very concise and lucid manner. Of course, being a popular guide, the legal decisions on which the statements of the law are based are not set out, but so far as we have been able to test these statements they appear to be accurate and very comprehensive, and we are not surprised that this little work is in its second edition. The actual text occupies only some 46 pages, but the full text of the Act is printed at the end of the book.

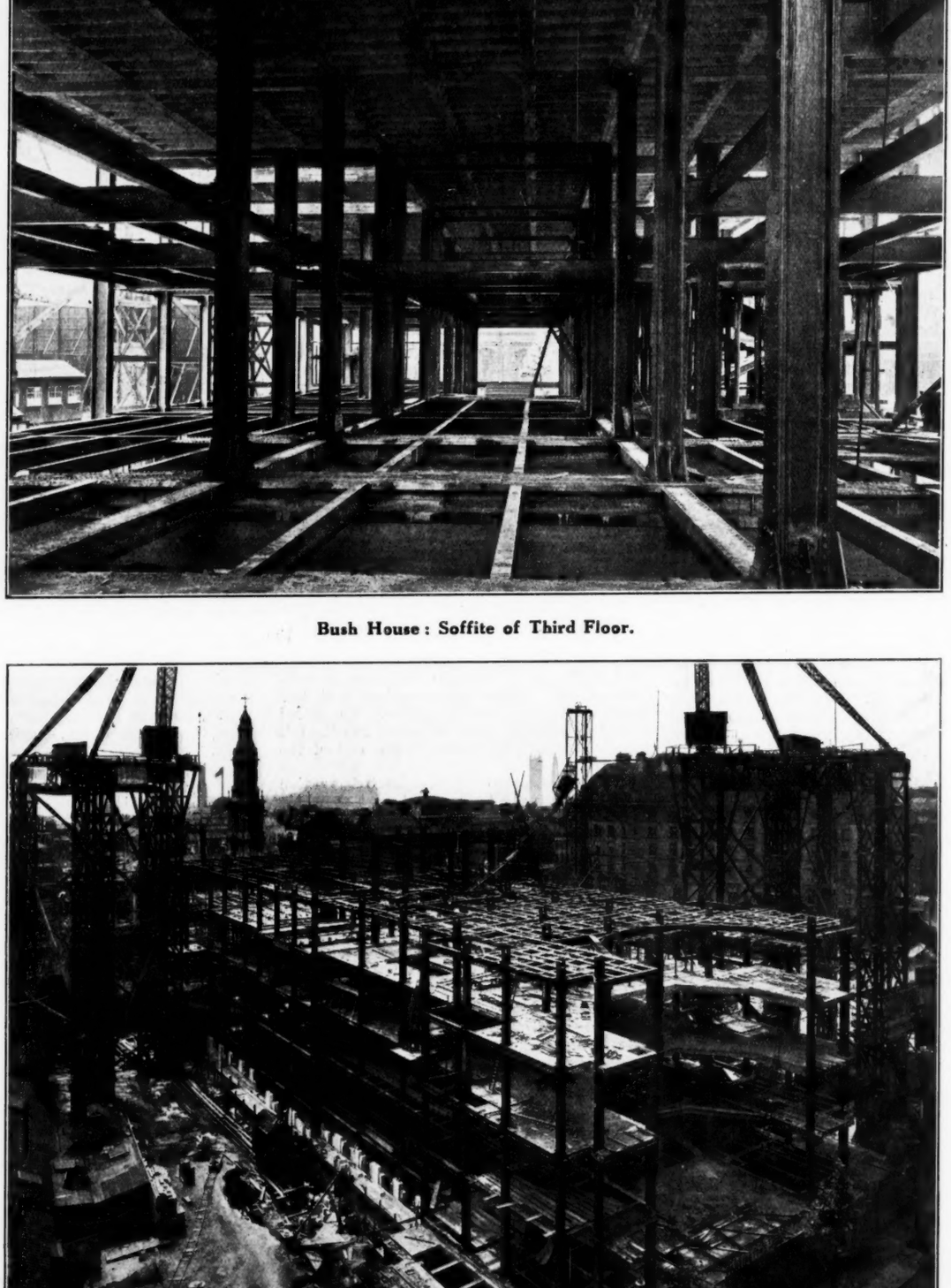
With reference to the complicated question of rating new and converted houses to which we have recently drawn attention, we note the author treats section 12, subs. (9) thus: "For purpose of rating the gross estimated rental or gross value of such houses is not to exceed (*a*) if the house forms part of a housing scheme the rent (exclusive of rates) charged by the local authority; (*b*) in any other case the rent (exclusive of rates) which the local authority would have charged for a similar house if included in such a scheme," but the actual words in the subsection which have caused so much difficulty are "The gross estimated rental or gross value of any such house to which this Act would have applied if it had been erected or so reconstructed before 3 August, 1914, and let at that date shall not exceed," and then follow paragraphs (*a*) and (*b*), and as has been stated in the press the local authorities are interpreting these enigmatic words in various ways. We hope some definite decision may soon be given on the meaning of this complex subsection.

*Dizionario di Architettura.* By G. RAVAZZINI. Milan: Ulrico Hoepli. Price L.10.

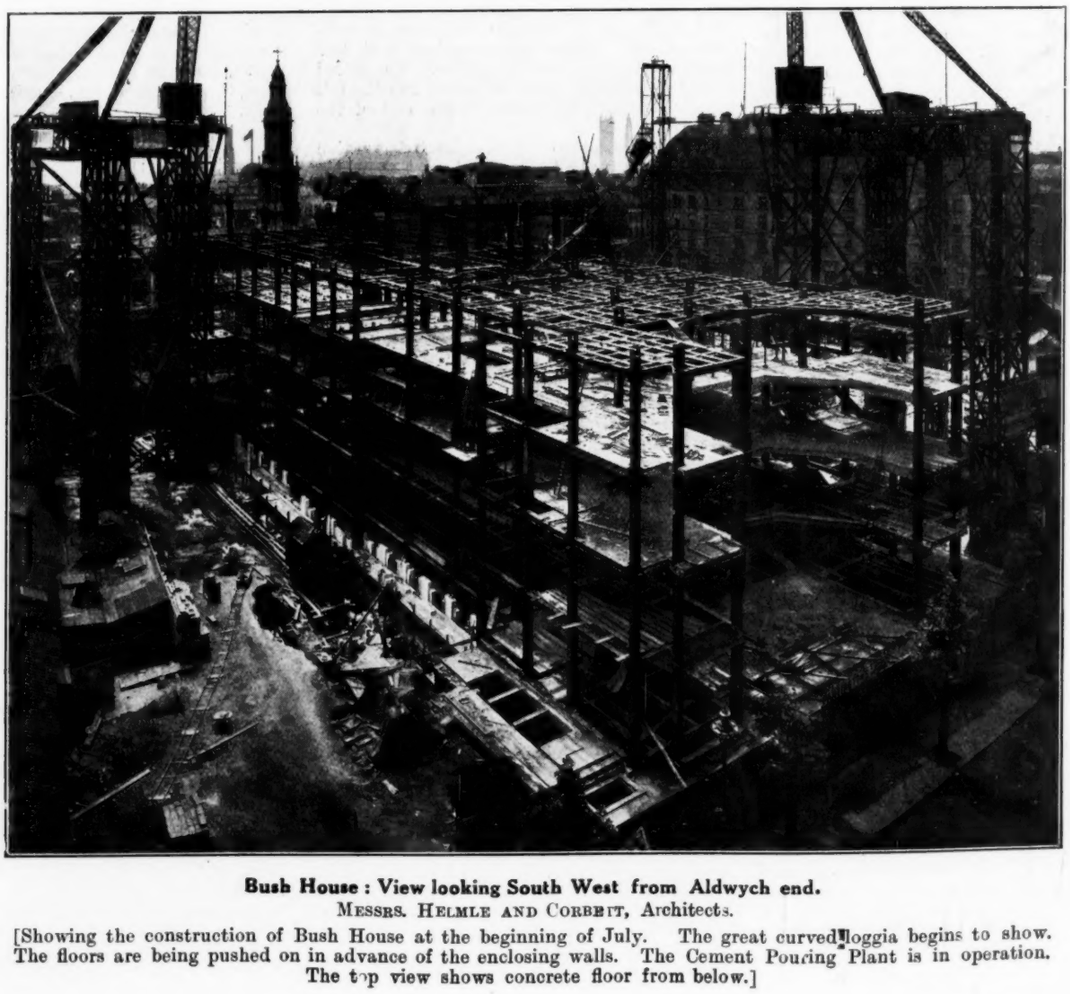
This small dictionary is excellent value for the money, and should prove useful to English students whose familiarity with Italian architectural terms is not complete. The explanations are given in clear and simple language which can be understood by anyone who has an elementary knowledge of Italian, and there are, moreover, numerous sketches (530 in all) which render comprehension easier. Indeed, the superior value of an illustration to any verbal description, no matter how good, has been fully realised by Sig. Ravazzini. Like the other Hoepli manuals, this dictionary is meant to guide and assist the general reader who is studying architecture from a cultural standpoint, and for his benefit a brief description is given of various well-known monuments, such as the Ca' d'Oro, the Farnesina Villa, the Procuratie, &c., including a few outside Italy. This feature, however, is not an entirely satisfactory one, and it is somewhat annoying to find one monument mentioned for half-a-dozen of equal importance which are omitted. In view of the limited space at his disposal the author would, in our opinion, have been better advised not to have attempted a list of this kind. Apart from this small defect the book is remarkably complete. The author has managed to be concise without "scrappiness," and in the case of fundamental features, such as columns, arches, and vaults, where a fairly lengthy description is necessary, he devotes several pages thereto. Furthermore, whenever terms are synonymous, or nearly so, mention is made of them all, these references being particularly helpful. If we add that all terms, whether relating to the structural or the decorative side of the art, receive the same intelligent and accurate explanation, it will be seen that this little volume fills a real need, and contains in its 230 pages information that had previously to be sought in many bulky and expensive tomes.

*Drainage and Sanitation.* By E. H. BLAKE, F.S.I. London: B. T. Batsford. Price 15s. net. 2nd edition.

The author is to be congratulated upon the second edition of his book. It deals with such all-important questions to health as the environment of a building, the influence of climate, open spaces around buildings, sanitary construction, subsoil, drainage, &c. The author devotes two chapters to water supply, and deals exhaustively with such important subjects as drainage and sanitary work and refuse disposal. There is a chapter devoted to statutory enactments governing sanitary matters, by-laws, and legal decisions. The book will be found to be a useful work for engineers, surveyors and others dealing with drainage and sanitary matters.



**Bush House: Soffite of Third Floor.**



**Bush House: View looking South West from Aldwych end.**

MESSRS. HELMLE AND CORBETT, Architects.

[Showing the construction of Bush House at the beginning of July. The great curved loggia begins to show. The floors are being pushed on in advance of the enclosing walls. The Cement Pouring Plant is in operation. The top view shows concrete floor from below.]

## RATING NEW HOUSES AND CONVERTED FLATS.

A NOTE appeared in *The Times* for July 8 calling attention to the serious effect the action of certain rating authorities was having upon the housing question. The article states that under Section 12, subsection (9) of the Rent Restriction Act, 1920, it is laid down that the rating assessments of new houses or flats shall be the same as for pre-war houses or flats of similar size and value, and that this was recognised by Dr. Addison (when Minister of Health) as necessary in order to prevent injustice being done by the local Rating Committees as between tenants of new and old houses, but that some of the rating authorities are ignoring the provisions of the Act, and some examples were given. We dealt with the question involved in our issues for November 5, November 19, and December 31, 1920, and a further note has appeared in *The Times* of August 3, again referring to this question.

The principle, as stated above, was recognised by Dr. Addison when the Rent Act came up as a Bill for second reading, when he is reported as having said: "If new houses had to be charged with a higher rent than the old existing houses, and if the rates were assessed on the rents, new houses would have to pay twice the rates for similar houses, which would be quite unfair." That was a plain statement of fact and of the evil it was intended to redress made by the Minister in charge of the Bill. When, however, this statement was put into "Parliamentary language" it took a form so obscure that no one has been able so far to understand it.

Section 12, subsection (9) first commences by saying that the Act shall not apply to houses erected after or in course of erection on April 2, 1919, or to any dwelling-house which has been since that date, or was at that date being, converted into two or more separate and self-contained flats or tenements, and then follow the cryptic expressions which the rating authorities have to interpret: "But for the purpose of any enactment relating to rating, the gross estimated rental or gross value of any such house to which this Act would have applied if it had been erected or so reconstructed before the 3rd August, 1914, and let at that date, shall not exceed (*a*) if the house forms part of a housing scheme to which Section 7 of the Housing, Town Planning, &c., Act, 1919, applies, the rent (exclusive of rates) charged by the local authority in respect of that house; and (*b*) in any other case the rent (exclusive of rates) which would have been charged by the local authority in respect of a similar house forming part of such a scheme as aforesaid."

This is surely a piece of legislation which recalls some of the utterances delivered by the "mad hatter" in "Alice in Wonderland," and it is not surprising that the local authorities interpret it in different ways. In an article on this subject on December 31, we suggested that the Ministry of Health might issue a leaflet explaining it, and in the second article in *The Times* it is stated a letter was written by the Ministry to the National Conference of Assessment Committees, but we have not seen this letter. The writer of the original note in *The Times* accuses the local authorities of ignoring the provisions of an Act of Parliament, and says the matter calls for the attention of the Government, which should issue a clear instruction to all rating authorities. It is possible the rating authorities do not ignore the Act, but that they fail to understand it, as only a Parliamentary draftsman is capable of the imaginative gymnastics required to interpret the meaning of this subsection.

The same writer, when he says "It is laid down that rating assessments on new houses and flats shall be the same as for pre-war houses and flats of similar size and value," is perhaps rather taking what Dr. Addison said than what is expressed in the Act. As shown in our article on December 31, it is extremely difficult to ascertain whether (using the words of the subsection) the new or reconstructed house is one "to which this Act would have applied if it had been erected or so reconstructed before August 3, 1914, and let at that date." The definitions contained in the Act are not framed to meet such imaginative cases. Then there is a difficulty in determining whether the house has in fact been reconstructed.

In the correspondence with the Ministry of Health, to which we referred in our issue for November 5, the Ministry thus explained the subsection: "The subsection does not say that properties newly converted into flats shall be rated as if they existed on August 3, 1914, but that the gross value of such properties for rating purposes shall not exceed the rent (exclusive of rates) which would be charged by a local authority if the house had formed part of a housing scheme to which section 7 of the Housing Act, 1919, applies." It seems clear from the statements of the writers of the articles in *The Times* that the rating authorities are not rating converted flats on a correct basis, but far too highly, but it is difficult to lay down any clear directions under this legislation.

In the case of flats the case Woodward *v.* Samuels, as regards houses within the Acts, has created a further difficulty, as in that case the rent of the house before division into flats was held to be the "standard rent."

The Rent Restriction Act does not apply to these houses reconstructed or converted into flats since April 2, 1919, except for rating purposes. Do the decisions relating to the "standard rent" of houses converted into flats which are *within* the Act apply to those houses and flats only brought within the Act for rating purposes? Is the whole house to be regarded or each flat separately for rating purposes? The intention of the legislature clearly was that the occupiers of new houses and of houses converted into flats should not be put in an unfair position as to the rates, and as the creation of increased accommodation was, and is, urgently required the least the Ministry of Health could do would be to furnish a translation or solution of the Chinese puzzle concocted by the draftsman of the Act.

## BUSH HOUSE, ALDWYCH.

CONSIDERABLE progress is being made with the centre block of Bush House, which reaches right across the island site from Aldwych to the Strand. The whole of the basement, retaining walls, and heavy foundation work have now been completed. The steelwork now reaches the fifth and sixth floors. The stonework at the lower ground floor is finished and good progress is being made with the elevations from the street level upwards.

One of our illustrations shows the steel shaping up for the large circular domed doorway entrance facing Kingsway. This entrance has been designed specifically to form a vista to Kingsway. The crown of the heavy masonry arch over the entrance will eventually reach a height of 80 ft. The reinforced concrete floors are being laid with a pouring plant, and a system of metal centering throughout has been adopted which is easy to fix and takes the minimum of horsing up and can be used several times.

The other illustration shows the soffite of the third floor. The light wire rods shown through the soffite act as shear members in the concrete and will also in due time support the suspended ceiling. The architects are Messrs. Helmle & Corbett, of New York and London; the general contractors Messrs. John Mowlem & Co.

### Statue of the Premier.

A bronze statue of Mr. Lloyd George, presented to the town of Carnarvon by the Mayor, Mr. Owen Jones, was unveiled on Saturday last week. The statue, which is placed in Castle-square, is the work of Sir W. Goscombe John, R.A. The base, of Welsh granite, when finished will bear two inscriptions.

## INCREASE OF RENT.

A CASE, Lowe *v.* Fitzpatrick, reported in *The Times* for July 20, from the Wigan County Court, illustrates the difficulty of calculating increases of rent in connection with rates under the Rent Act of 1920.

The applicant (Lowe) was the landlord, and the respondent (Fitzpatrick) the tenant, of a dwelling-house in Wigan of which the standard weekly rent was 3s. 6d. Until April, 1921, the rates had been included in the rent and paid by the landlord who, however, under the Poor Rate Assessment and Collection Act, 1869, received a commission or rebate of 75 per cent. In 1914 the full rates worked out at 1s. 1½d. a week, which with the rebate of 75 per cent. left the landlord 10¼d. a week to pay. In April, 1921, the full rates amounted to 2s. 6½d. a week, but in the previous February the Corporation had given notice that all allowances had been suspended; the rates would be the same whether paid by landlord or tenant. In March, 1921, the applicant had given the respondent notice to quit, but offered a new tenancy for seventeen weeks from the date the notice to quit expired, the rent to be 3s. 5¼d., but the tenant to pay the rates.

Under section 2, subs. (1), pars. (*c*) and (*d*), an increase in rent of 30 per cent. of the "net rent" is allowed. By section 12, subs. (1) (*c*), "the expression 'net rent' means, where the landlord at the time by reference to which the standard rent is calculated paid the rates . . . the standard rent less the amount of such rates. . . ." Therefore the rent was arrived at as follows:—

| | s. | d. |
|---|---|---|
| Standard rent .. .. .. | 3 | 6 |
| Net rent, *i.e.* standard rent less sum paid for rates (10¼d) .. | 2 | 7¾ |
| Thirty per cent. on 2s. 7¾d. .. | | 9½ |
| | 3 | 5¼ |

The respondent contended that the amount deducted to ascertain the net rent should not be the sum actually paid by the landlord, but the amount of the full rate, *i.e.*, 1s. 1½d.

It has very recently been held by the House of Lords in the case Nicholson *v.* Jackson (*The Builder*, August 5) that under the Act of 1915, section 1, sub. (1) iv, which corresponds to section 2, subsection (1) (*b*) in the Act of 1920, that in computing the amount by which the rent may be increased in respect of rates paid by the landlord the actual sum paid by the landlord is the sum by which the rent can be increased, that is, the sum subject to the rebate, not the full rate where such commission or rebate has been made.

It will be seen that the case now under consideration raised the converse of the above proposition, for it was contended that to ascertain what is the "net rent," not the actual sum paid by the landlord in respect of rates is to be deducted but the full rate. The county court judge held that the case of Nicholson *v.* Jackson applied to this case, and that the increase in rent was correctly calculated as above by the landlord. This calculation appears to take account of section 2, subs. (3), under which "Any transfer to a tenant of any burden or liability previously borne by the landlord shall for the purposes of this Act be treated as an alteration in rent," for the previous sum paid in rates by the landlord is allowed for, and the result is that the tenant only pays the actual increase in rent allowed by the Act plus the increase in rates also allowed under section 2, subsection (1) (*b*).

### An Old Manor House.

The Bishop of Exeter has addressed a letter to the diocese appealing for support of his efforts to delay the sale of Little Hempton, Newton Abbot, a fourteenth-century building. The sale is fixed for August 19, and the Bishop urges all interested to write to the Department of Agriculture supporting his idea.

**Welling Urban District Council Housing Scheme.**
MR. W. M. EPPS, A.R.I.B.A., Architect.

## HOUSING SCHEME AT WELLING, KENT.

Pleasantly situated, in close proximity to Welling Station (South Eastern & Chatham Railway) and within easy distance from either Cannon-street or Charing Cross, this scheme, being carried out for the Bexley Urban District Council, is now well advanced. It is proposed to build a total of 426 houses, in pairs and groups of four; of this number, fifty are already occupied, eighty-four are roofed in, and of the remainder all but forty-six are in various stages of construction. The houses are of the "A" and "B" types, sanctioned by the Ministry of Health, the "A" type comprising living-room scullery, offices, and two or three bedrooms, and the "B" type containing living-room, parlour, offices, and three or four bedrooms. The arrangement of the types, together with the various materials used, combine to make an interesting and effective scheme.

During a period in which the shortage of suitable bricks threatened considerably to retard progress, Mr. L. Cullen, the clerk of works, invented an ingenious system of concrete block construction, which, meeting the full approval of the Ministry, has been adopted with considerable success. The blocks are solid, 8 in. thick for the main walls and 4 in. and 3 in for partitions, laid dry in the first place and afterwards keyed and bedded in liquid cement grout, which is so confined that progress can be continued through frosty weather.

The Council is undertaking all road making, sewers, &c.

The architect for the scheme is Mr. Walter M. Epps, A.R.I.B.A., of 616-617, Bank Chambers, 329, High Holborn, W.C.1, and the contractors are Messrs. Thomas & Edge, of Woolwich, S.E.

### Epsom War Memorial.

The Committee have approved the design by Captain W. H. Hatchard Smith, A.R.I.B.A., the work to be put in hand at once and completed by November.

## LIVERPOOL UNIVERSITY SCHOOL OF ARCHITECTURE.

The following scholarships and prizes have been awarded for 1921:—*Fourth Year*: Holt Travelling Scholarship (£50), E. R. Arthur. *Third Year*: Honan Travelling Scholarship (£50) (awarded by the Liverpool Architectural Association), E. W. Martin. Lever Prizes in Architecture: First prize (£15), divided between Edwin Williams and H. W. Pritchard; Second Prize (£10), divided between E. M. Fry and D. Brooke. *Second Year*: Two R.I.B.A. Jarvis Travelling Scholarships (£50 each), J. H. Forshaw and Edwin Williams. *First Year*: Elmes Memorial Entrance Scholarship (£30), E. H. H. Higham; University Studentship (£30), Donald Bradshaw; Architects' Journal Prize Essay (open to students in all years), H. S. Silcock (second year student). *Department of Civic Design*: Lever Prizes in Town Planning: First prize (£15) divided between B. utler and R. D. Jones; second prize (£10) divided between S. O. Hill and E. Reily.

# BUILDING IN INDIA.

By "AN EX-TERRIER."

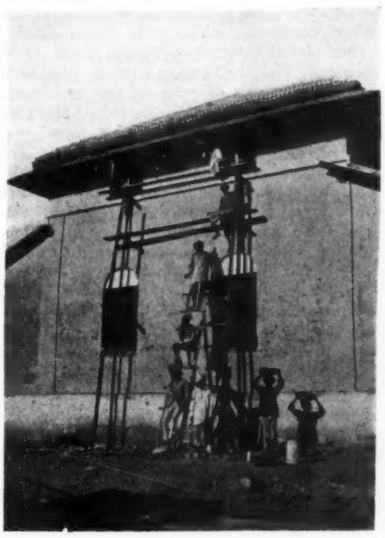
THE simple-life folk on the plains of the Punjab live in grass or mud huts, but those who can afford it prefer a brick-built home. There is no building stone in this part of India, but plenty of brick earth, so that near a town of any size kilns are a feature of the landscape, and are easily recognised by the funnels erected to draw the smoke. The Indian likes being photographed, and a sahib visiting a brickyard is quite a little event for him. The initial procedure is, of course, mixing the clay. We find two sturdy young men mixing up brick-earth and water. When it is of the right consistency they carry the clay on a hand barrow to the moulder's assistant, and one discovers with horror that there is "dumping" even in India. The assistant reduces the dump pretty quickly, passing suitable rations of clay to the moulder, who fills up the frame and levels it over carefully before turning it upside down and proceeding with the next brick. They work in a squatting position for hours. We thought of these dear old Indians later, when brickmaking became one of our "fatigues" in Mespot. The bricks did not get burnt, but they set jolly hard in the sun and proved mighty useful building temporary stores, &c.

**Making Mortar.**

Glancing up for a moment, we see goats browsing on what herbage they can find. The goatherd, a smiling youth carrying a long-handled knife, comes strolling up to see what is happening. He has been cutting off branches from the acacia trees, the foliage of which (but not the thorns!) his animals appear to enjoy very much.

The bricks are allowed to set in the hot sun for several days, and are then taken away on pack donkeys to the kiln. We walk across to the kiln and find an old man shovelling in small coal through one of the numerous openings left for the purpose and carefully replacing the lid. The kiln is wide and deep, and the fires have to be fed to keep them going for the required time. The chimneys at the end draw the smoke and heat horizontally amongst the bricks. A younger man near by, mildly interested, looks up. He is having a cool smoke from a "hookah"—cool because the smoke passes through water before reaching his mouth.

Bidding our friends good-bye (or words to that effect) we get on to the road again and soon meet an old gentleman bringing along a supply of water, contained in two skins slung over the back of an amiable and decorated bullock. The old chap fills the skins at the well with a kerosene tin, and finds this a cheap and useful method of hauling water. But as we get nearer the town we are glad to see the dust being laid—if only for a time—by *modern* bullock-drawn watercarts.



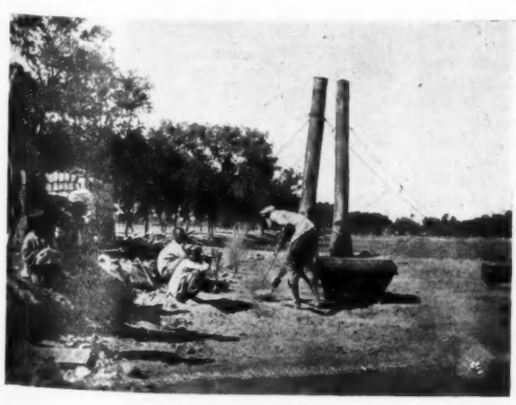
**Scaffolding.**

Walking through the native bazaar, we halt a moment to watch some men sawing wood. It is hefty work and the shade of a banyan tree is welcome. They are not using a sawpit, but contrive otherwise. One man squats on terra firma, and the other stands on an adjustable platform which is lowered as the timber is sawn through. Organisation, too, is evident, for there are relief men waiting their turn to work, and a third man in a turban is sharpening a spare saw. But a return must be made to barracks, and on arrival we find that structural alterations are in progress and—a feature of all building operations—the making of mortar. A woman worker throws basketfuls of broken brick, &c., into a circular channel, in which turns a grind-stone pulled round by bullocks. The driver keeps the material well stirred by means of a pole attached to the grindstone axle.

**A Brickyard.**

We walk across to one of the tiled buildings and watch some windows being filled up. The mason receives his materials in a basket passed up from hand to hand. The Indian is a cheery worker, especially when at gang work. This little crowd is only too pleased to be "snapped." A very simple bit of scaffolding here, but the intricate network used in the construction of a large building in one of the big cities is a truly marvellous affair, and some very fine buildings are erected.

The mosques and fortified palaces of Moghul times are things to wonder at, although in the case of the Taj Mahal at Agra, for instance, an Italian had much to do with the design and finer work. Nowadays one usually finds the biggest undertakings in the charge of European supervisors, under whose direction the Indian works well at a very much better wage than his ancestors ever received.



**An Indian Brick-Kiln.**

**Sawing Wood.**

## THE EMBANKMENT AMENITIES.

It is good news that the Embankment Gardens are to be cleared of the occupancy of their temporary buildings at the end of this year. It would be better still if the long obstruction to the beautiful stretch of gardens between Westminster and Waterloo Bridge had created a determination to keep them ever afterward clear of obstruction.

# HOUSING AND TOWN-PLANNING NOTES.

### Hinckley Housing.

A statement presented at Hinckley Rural District Council recently showed that 180 houses were being erected in the rural district at a cost of £178,655. Of this amount £24,465 was still required. It was decided to make application for the borrowing of this sum.

### Housing Exhibition at Glasgow.

Arrangements are well advanced for the forthcoming Ideal Homes Exhibition promoted by the Glasgow Corporation, which will open in the Kelvin Hall, Kelvingrove, on September 19 next until October 8. The exhibition will be divided into classifications including building materials, furnishings, lighting, heating, labour-saving and cleaning appliances, sanitary appliances, decoration, recreation, foodstuffs, and appliances for home nursing. The building material section will comprise reinforced concrete, brickwork, concrete slabs and blocks, asphalte, asbestos, slabs, tiles, marbles and mosaics, casements, cements, chimney-pots, cowls, roofing materials, doors, door and window fittings, floorings, glazing, timbers, mouldings, chimney-pieces, and stone.

### Housing in Scotland.

The following figures show the progress that has been made in State-aided housing schemes in Scotland to July 15:—Permanent houses completed, 2,125; temporary houses completed, 539; reconstruction houses completed, 67; houses built under the private subsidy scheme, 671; total, 3,402. There are in addition 12,535 houses under construction, of which 1,638 are being built by private persons with the aid of the Government subsidy. The total amount paid by the Scottish Board of Health, in respect of the 671 houses built under the private subsidy scheme, is £163,070.

### Land for Houses.

Mr. J. D. Wallis (Official Arbitrator), recently heard a claim by Colonel Vaughan Lee against the Mountain Ash Urban District Council, concerning the Council's compulsory acquisition of 26¼ acres of land for housing purposes.

Mr. Lewis, for the owner, put in a claim amounting to £8,482.

Mr. E. M. David, surveyor, for the claimant, valued the land at £5,028, and added £2,500 for injurious affection of property, making a total of £7,528. A sum of £500 (included in the £2,500) for severance of a quarry could be given up if access were provided by the Council.

Mr. Robert Rees, mining engineer, estimated the present value of the coal affected at £15,120. There would be a direct loss to Colonel Lee if the coal were left underneath.

Mr. H. A. Pritchard (the District Valuer), on behalf of the Council, submitted a valuation of £2,264.

The Official Arbitrator has awarded that the acquiring authority is to pay the owner the sum of £3,960, subject to an agreement as to mines and minerals and other provisos. The acquiring authority is to pay the owner's costs.

### Restricted Housing.

On the 3rd inst. Sir A. Mond (Minister of Health) informed Mr. Lambert, in the House of Commons, that, having regard to the limitation put on the number of houses under the Government housing scheme, it had become necessary to give preference to the claims of industrial areas over those of rural areas.—In reply to a subsequent question by Mr. T. Thomson, Sir A. Mond said in addition to houses building under the scheme of subsidy to private builders, there were 76,000 houses now under construction by local authorities and public utility societies and about 50,000 additional houses contracted for but not even commenced. There was here ample field for the employment of surplus labour, and there was no point in multiplying approvals for further houses, to say nothing of the effect of such a policy on prices. With regard to 440 plasterers who were said to be unemployed, he could only state that at the date of the last housing return no fewer than 1,922 plasterers were wanted for housing schemes actually in hand.

### Norwich Housing Matters.

At a meeting of the Norwich City Council recently a proposal was made to remunerate the City Engineer (Mr. A. E. Collins) for the extra work, responsibility and time thrust on him by carrying out the City Housing scheme. "The fact that the £750 involved would not come out of the pockets of the Norwich ratepayers did not prevent the Council from being seized with a fit of unexpected economy and, notwithstanding all the arguments of the Chairman and other members of the Committee," says the *Norfolk Chronicle*, "the proposal was rejected after a long debate by 22 votes to 12. How far it is advisable to economise national money at the expense of what some may regard as an act of local injustice is, of course, another question."

At the City Council meeting recently, a report was presented from the Housing and Flood Prevention Committee. This stated *inter alia* "The Council will remember that in February last they determined that houses should be erected by direct labour at the Mile Cross Estate in accordance with plans prepared by local architects at a basic price of £875 per house. The proposal was placed before the Ministry of Health, who were able to agree to the sum of £875 as a basic figure. Negotiations have since taken place with the Ministry, and eventually at a conference recently held, the basic sums of £750 for a three-bedroomed house and £775 for a four-bedroomed house were put forward. The committee now recommend that (a) The Standing Orders be suspended to enable the Council to consider and make order upon the following recommendations. (b) The following resolution of the Council of February 15, 1921, be rescinded, viz.:—'Resolved that houses in accordance with one or more of the architects' schemes be built under the control of the City Engineer by direct labour at an estimated cost of £875 per house; each architect supervising the erection of the houses in his particular scheme, subject however to the necessary money required for the erection of the houses being forthcoming; and that the Housing and Flood Prevention Committee be empowered to decide the number of houses to be so erected.' (c) Subject to the consent of the Minister of Health, 60 houses in accordance with plans by direct labour under the control of the City Engineer at a basic price (calculated on prices of materials and rates of labour ruling on July 8, 1921) of £750 per house, with £25 in addition for four-bedroomed houses, plus 2½ per cent. for contingencies on each case; the architects concerned to supervise the erection of the houses; subject to the necessary money required for the erection of the houses being forthcoming. (d) The Town Clerk be authorised to place before the Minister of Health the views of the Council that the 60 houses above referred to should be erected forthwith owing to the most urgent and necessitous call for additional housing accommodation, and to provide work during the autumn and winter and thereby lessen the acuteness of the unemployed problem."

Mr. Copeman (Chairman of the Committee) said that as the Council knew, they had started with a scheme for 1,200 houses. At that time the Ministry told them 1,200 houses were not sufficient because the 1,200 did not replace any of the slum houses which ought to be pulled down. What they had done thus far was to put in hand only about 244 houses. These houses were more or less nearing completion, and a great many of them were occupied. The 60 houses would only bring the number up to 304. The recommendations were agreed to.

### Manchester Houses.

The Ministry of Health states in a letter to the Manchester City Council that it is difficult to give a final figure as to the number of additional houses which would be approved under the assisted scheme consequent upon the Government's decision on the general question, but that "For their present purposes the Council may assume that the Ministry will be prepared, subject to acceptable tenders being obtained, to sanction the erection of a total of 700 more houses (making in all 3,500), to be proceeded with in such number and at such times as may be arranged between the Ministry and the Corporation. The possibility of increasing this total at a later date must depend on the margin, if any, available after such adjustments as are necessary and practicable, within the limits of the decision as announced by the Minister, have been made."

Out of the 176,000 houses to be completed immediately under the Ministry's scheme, the Housing Committee is asking that the allocation to Manchester should be not fewer than 4,000.

A communication has been received by the Salford Health Committee stating that the Ministry is not prepared to agree to the erection of more than 350 houses on the Littleton-road site. The Committee have resolved to press the case for the original 701 houses, but they are suggesting that the 350 houses be proceeded with for the time being, on the understanding that the claim of the Corporation to the balance is not prejudiced thereby.

### Housing at Hackney.

We notice from the Report on the Sanitary Condition of the Metropolitan Borough of Hackney for the year 1920, by Mr. G. H. Hart, Medical Officer of Health, just issued (London: Charles Straker & Sons, Ltd.), that considerable progress has been made during the year as regards provision of the additional housing accommodation needed in the Borough. Nine houses and nine army huts have been purchased by the Council and converted, while schemes have been adopted for the erection of 80 cottages and 62 maisonettes, although the actual details with regard to construction have not yet been settled.

### Roll of Honour, Ocean House.

Mr. Sydney Bolton, the Chairman of Lloyds, recently unveiled Messrs. Robert Gardner, Mountain & Co.'s Roll of Honour at Ocean House. This takes the form of a carved panel introduced into the mahogany panelling of the general office, on which are inscribed the names of those who served in the war. A sword of justice supporting a laurel wreath, together with the emblazoned arms of the City and Lloyds, provide appropriate decorative symbols. The work was executed by Messrs. G. & A. Brown, Ltd., of Hammersmith, from the design of Messrs. Bourchier, Tatchell & Galsworthy, FF.R.I.B.A.

## NOTES FROM SKIPTON AND BOLTON.

THE Institute of Builders (Manchester Branch) and the Manchester Society of Architects recently paid an excursion to Skipton Castle, Bolton Abbey and Ilkley, and we illustrate on this page some impression sketches of the tour executed by Mr. Gordon Hemm.

Skipton Castle dates back to the time of Henry VIII, but the actual building can be traced back to the Conquest and its erection by William de Romillé (a member of this family founded Bolton Abbey) and to the early Plantagenets. The yew tree in the courtyard is reputed to be over 500 years old. Historically, the Castle is noteworthy for its defence against the Parliamentarian troops, and as having been the home of the Cliffords. Their motto, "Desormais," forms the outer and inner parapets of the Gateway Tower. The Castle also sustained a futile siege at the hands of the Pilgrimage of Grace. In the seventeenth century portions were restored by Lady Anne Clifford, Countess of Pembroke, whose monogram may be seen in the Courtyard. Skipton Church is the burial place of the Cliffords. The tombs are magnificent, and in splendour of blazonry almost unrivalled.

The original early English west front of Bolton Abbey is concealed by a perpendicular tower, begun by an old English inscription in the year 1520 by Richard Moore, the last of the priors. It was unfinished when Henry seized the Monastery. Had it been completed, the original west front would have been removed and the nave connected with the tower. The nave is early English. On its western wall are four corbels which were removed from their places when the roof was relaid in the latter half of the nineteenth century. The aisle was erected early in the thirteenth century, but the decorated windows make it appear to belong to a much later date. Near the vestry door is an ancient stone altar slab, one of the few sealed altar stones in England. It has five crosses (signifying the five wounds of Christ), one at each corner of the upper side, partly obliterated, and the other on the front side in the middle. The cavity in the middle once contained a relic, and was covered with a very thin stone or brass slab sealed. At a later period, however, the stone has been used as a memorial slab, and the cavity contained a brass, bearing an inscription. The pieces of lead at the corner show the means of fixing it.

The Courtyard, Skipton Castle.

## FIRE TESTS ON COLUMNS.

AN experimental investigation of the resistance of building columns exposed to fire and to fire and water has been conducted by the U.S. Bureau of Standards in co-operation with the Associated Factory Mutual Fire Insurance Companies and the National Board of Fire Underwriters. The fire exposure was produced by placing the column in the chamber of a gas-fired furnace, whose temperature rise was regulated to conform with a predetermined time-temperature relation. The test columns were designed for a working load of approximately 100,000 pounds, as calculated according to accepted formulæ. The working load was maintained constant on the column during the test, the efficiency of the column or its covering being determined by the length of time it withstood the combined load and fire exposure. In the fire and water tests, the column was loaded and exposed to fire for a predetermined period, at the end of which the furnace doors were opened and a hose stream applied to the heated column, the severity of the test being regulated to correspond with the degree of resistance developed by the corresponding type of column in the regular fire tests. In placing the columns and coverings, the work was planned so as to reproduce as nearly as possible conditions in building construction, in point of methods of application and workmanship. The results of the tests have been summarised in terms of hours and minutes of fire resistance afforded by the different types of columns and protections tested. The resistance period is taken as a portion (two-thirds) of the average time to failure in the fire tests, the deduction being made to allow for incidental variations in material and workmanship of columns and coverings as tested and as installed in buildings, and also for differences in load and fire conditions that cause variations in results with nominally comparable columns. Requirements relative to resistance to water application are limited to ability to sustain load without danger of immediate collapse in case of fire recurring after fire and water exposure.

The resistance periods thus derived vary from 10 minutes for unprotected structural steel columns to eight hours for similar columns covered with 4 inches of concrete made with fire-resistive aggregates and reinforced concrete columns made with the same aggregates. Filling the interior of structural steel columns with concrete gave them resistance periods ranging from ½ hour to 3½ hours, depending on the size and shape of the column and the concrete aggregates employed. Single-layer protection of plaster on metal lath applied to structural steel columns gave ¾-hour resistance; and double layer, with airspace between layers, 1½ hours. Two-inch concrete protection on structural steel columns gave resistance periods from one hour to four hours, depending on the aggregate employed. The concrete made with sand and pebbles high in silica (chert and quartz) developed disruptive effects on exposure to fire, which is ascribed (1) to points of abrupt volume change existing for chert as low as 210 degs. C. and for quartz at 573 deg. C., where it is transformed into the mineral tridymite; (2) to disruption of the pebbles from evaporation of the chemically combined water of the chert, and water enclosed in tiny cavities in the quartz when it crystallized. Concrete made with trap rock, granite, sandstone, or hard coal cinder aggregate proved superior to that made with siliceous gravel. The highest resistance obtained with concrete made with dolomitic limestone and calcareous sand. The 4-in. concrete protections developed resistance periods from 2½ to 8 hours, the variation with the aggregate being similar to that for the 2-in.

Hollow clay tile on structural steel columns gave periods from 1 hour to 3 hours, depending on the type of clay and method of application. Tile made from semi-fireclay burnt to medium hardness developed greater freedom from cracking and spalling than any other tile tested. Hard burnt semi-fireclay tile evidenced greater effects from fire exposure, and with surface clay and shale tile these disruptive effects were very marked. Little or no difference in resistance was noted as between the 2-in. and 4-in. thickness of hollow tile, the time to failure being dependent on the area of solid material rather than on the thickness of the air space. Filling the interior with concrete or tile appreciably increased the resistance and stability of the covering, and interior metal ties were found to be superior to outside wire ties in holding the tile in place. Solid clay brick set on end and edge to form a solid covering about 2½ in. thick outside the steel proved somewhat unstable on exposure to fire and developed a resistance period of only one hour; while with brick laid flat in the usual manner to form a 4-in. covering thickness, five-hour fire resistance was developed. Solid gypsum block, 2 in. in thickness, laid outside the flanges and edges of structural steel columns and with the space between blocks and flanges filled with gypsum mortar, gypsum blocks, or poured gypsum filling, gave 1½ hours' resistance; and similar coverings made with 4-in. solid blocks gave 3½ hours' resistance, the failure being due in all cases to shrinking, checking, and disintegration of the blocks which caused them to fall off and expose the steel.

Round hollow cast iron columns developed 20 minutes' fire resistance as tested unprotected, and ¼-hour resistance when unprotected and filled with concrete. Protections approximately 2 in. in thickness and consisting of Portland cement plaster on metal lath, hard coal cinder concrete, or round porous semi-fireclay tile increased their resistance period to two hours. Steel or wrought pipe not smaller than the 6-in. standard size, filled with 1 : 4½ concrete, gave a resistance period of 25 minutes; and similar pipe, not smaller than the 7-in. standard size, filled with concrete and reinforced in the fill with structural angles, resisted ¾-hour.

Reinforced concrete columns with 2-in. integral concrete protection gave 5 hours' resistance as made with trap rock aggregate; and 8 hours' resistance with limestone aggregate.

Pine and fir timber columns with unprotected cast iron or steel caps gave 25 minutes' resistance; with column and cap covered with ⅜-in. gypsum wall board gave ¾-hour resistance; and with protection of Portland cement plaster on metal lath, gave 1¼-hours' resistance. The cause of failure of the timber columns was loss of strength of the wood at the cap bearings due to conduction of heat from the flanges of the metal caps to the bearing plates and into the wood, which caused it to soften, crush and induce slipping or fracture of the caps.

Bolton Abbey from East.

# THE BUILDING TRADE.

## TESTING AND STANDARDISATION OF MATERIALS OF CONSTRUCTION.

IN the stress of competition it is reliability which pays in the long run. This means standardisation, as only by some agreed standard qualities can an estimate of performance be obtained. Standards greatly add to the ease and simplicity of specifying, though, of course, they involve responsibility in seeing that the requirements are complied with. More important as regards trade interests is the confidence established in buyers, who will tend to adhere to a guaranteed standard material as against products of unknown quality.

In this country we are only just beginning to appreciate testing and the requirements of specific performance, but in America these things have advanced further, and we have before us a number of reports issued by several of the numerous committees of the American Society for Testing Materials. These reports deal with methods and requirements of testing, and are mostly tentative. They cover a very wide field, and the suggestions made are in many cases very rigorous and involve a testing outfit only possible for a fully-equipped laboratory.

### Concrete and Concrete Aggregates.

This report deals with compression tests, organic impurities in sands, size of aggregates and their specification, and sampling from finished work. Some interesting results transpire from the work upon compression tests. We know that the cube is generally employed for specimens to be crushed, but it was pointed out many years ago—we think by Johnson in his excellent book on "The Materials of Construction" (U.S.A.)—that the cube is not the best shape.

The Committee has found a cylinder most suitable, and that with a height twice the diameter. Specimens below the ratio of 1½ to 1 for these dimensions respectively are said to show great change in strength for small variations in relative height. The strength of such cylinders or columns (1½ to 1) is about three-fourths that of similar cubes. Specimens half a diameter in height were 50 per cent. stronger than cubes. This is interesting as an indication of the fallacy of applying the ordinary compression tests to the case of mortar joints. Specimens stored in dry air increased but little in strength even after long periods. Again, excess of water was found very appreciably to reduce the strength of specimens.

An interesting test is introduced on the workability of batch concrete, *i.e.*, its plasticity. This, of course, is very important, both as affecting strength and cost in the labour of handling and laying. One test to this end is made by placing a hollow metal truncated cone, wide end downwards, on a table and filling it with concrete. The cone and concrete with it are then raised half an inch and dropped 15 times rapidly, after which the cone is removed and the spread of the concrete at the base measured.

Organic impurities are assessed by the depth of tint produced in a given volume of 3 per cent. caustic soda solution in, of course, a vessel of given diameter by a given quantity of sand. For comparison a standard coloration produced by tannic acid is used. Tests of this kind are of course rather preliminary than final, but are very useful as lending themselves to easy performance without elaborate apparatus.

In securing specimens attention is drawn to the necessity for obtaining these relative to bedding planes and direction of the load, and also to the fact that concrete is less dense near the surface than at some depth.

An investigation is in progress upon the different aggregates available throughout the States, and in this work the assistance of institutional laboratories has been called upon much as in the case of like investigations in this country.

## PLUMBING INSTALLATION AT MESSRS. SELFRIDGE'S.

### VISIT TO NEW BUILDING.

A party of thirty-one students of the Polytechnic plumbing classes accompanied Mr. Walter Scott, M.R.S.I., the chief teacher, to the new buildings of Messrs. Selfridge & Co., Oxford-street, to view the system of plumber's work, comprising water supply from artesian wells, domestic hot-water supply, surface water and soil drainage, sanitary plumbing, and the plumbing in connection with the roof, &c. They were also shown the system of ventilation and other features. The party was received by Mr. L. C. Stokes, of Messrs. Graham, Anderson, Probst & White, the architects, who is acting as the resident consulting engineer, and Mr. W. H. Stitson, of Messrs. Stitson, White & Co., of 102, Victoria-street, who are carrying out the plumbing and heating work.

The party was first conducted to the boiler house, where two large steam boilers are installed and to which two more are to be added before the building is completed; these were explained by Mr. Stokes. Upon ascending to the next floor, the students were shown two large cylinders capable of holding ten days' supply of oil fuel. Mr. Stokes explained the thermal capacity of oil fuel as against coal, &c., and pointed out how the steam at 75 lbs. pressure passed from the boilers to reducing valves, where its pressure was reduced to a few ounces or practically to atmospheric pressure (necessary by-passes, of course, being provided) before passing to three large calorifiers to heat water for the hair-dressing saloons, and for sanitary and domestic purposes.

Mr. Stitson pointed out the changes occurring in the modern methods and materials used in work which was essentially plumbers' work and had been carried out by plumbers. From the time the heating engineers brought the steam pipes to the calorifiers (which consisted of steel cylinders fitted with indented copper pipes, the steam passing through the inside and the water over the outside of copper pipes, the latter being arranged so that they could be removed in one unit for the removal of scale), the plumbers took over the work, and the headers or manifolds connected to the calorifiers, with the numerous branches welded in, had been made on the job by plumbers and sent away to be galvanized before being finally fixed. Mr. Scott referred to the excellence of the oxy-acetylene welding, and said such work constituted an important branch of plumbers' work and in the near future would be very much in evidence. Before leaving the sub-basements, Mr. Stokes pointed out that owing to there being practically no open spaces in the building and the public sewer being above the level of the two lower basements, including the boiler house, the whole of the drainage systems were suspended from the ceiling in the sub-basement and were all constructed of heavy cast-iron. The surface water was all carried to one 9-in. pipeline and discharged through a specially-cast 9-in. intercepting trap, fresh-air inlet and outlet vent pipes being provided to ensure a continuous current of air through every portion of the system. Owing to there being certain surface and other water not of an offensive character to be removed from levels below the surface-water outlet, such water was run into a sump at the lowest level and raised by a centrifugal pump, electrically driven and automatically controlled, to the surface-water drain. The soil drains receiving soil and waste pipes from various fittings are 6 in. diameter, with 4 in. branches, all pipelines having means of access for inspection at every change of direction and gun-metal cleaning caps as necessary. Except in the basements, no pipes of any kind are in sight, the various waste pipes, &c., being fixed to iron columns, which are covered with column cases.

The party next inspected the plumbers' workshop, which contained many modern appliances. Mr. Stokes explained the working of a die for screwing large wrought-iron pipes, and with which one man could do work which formerly took six. A thread was easily cut, single-handed, on a length of 6-in. wrought-iron steam barrel. Here Mr. Stitson demonstrated examples of lead cesspools for asphalte roofs, explaining their connection to the asphalte roof and iron down pipes, and pointed out that, if asphalte were connected directly to iron, cracks appeared in a very short time owing to the different co-efficients of expansion, whereas when lead was introduced this defect was obviated. Some fine examples of oxy-acetylene welding were in the shop. Mr. Stitson showed examples of many of the fittings used, including finished anti-siphonage arms with back nuts and beaded plates for passing through vitrolite partitions; stop valves with keys; jointing rings, &c. In this same apartment was fitted a series of electrical panel starters and automatic apparatus for controlling various pumps and mixing apparatus.

Passing upwards to the floors above, much interest was aroused by the fact that no pipes, flushing cisterns, &c., were to be seen in the w.c. and other apartments; these were all found fitted in plumbing spaces about 2 ft. wide between ranges of w.c.'s, &c., and in false ceiling spaces about 3 ft. deep. Every fitting has its own stopcock to facilitate repairs. Another interesting feature was the avoidance of bends in the main waste and rain-water pipes, these being in straight lines from top to bottom of the building, the branches being in varying lengths to suit. Mr. Walter Britton, the foreman plumber on the job, demonstrated the actual fitting of the main pipes in a central pipe chamber, and explained how the night watchman would cut off the supply to all automatic flushing cisterns in the building with one stopcock to prevent waste of water during the night, and other features. Here, also, Mr. Stitson explained the measures taken to prevent the accidental predominance of hot water in the mixing valves at the shampoo basins in the barber's and hairdressing apartments.

On the roof the large cast-iron storage tanks and pipes from 6 in. downwards were inspected, and Mr. Stokes explained the exhaust fans in connection with the ventilating system and the working of the passenger lifts. The tower was he said, at present arranged to be 350 ft. high, but it was hoped it would be carried to a greater height. The boiler shaft was a small replica of that erected at the Equitable Building, New York.

Mr. Stitson explained that in this building lead work occupied only a very small place, but nevertheless the work was plumbers' work and had been done by plumbers. The whole of the drainage was of heavy cast-iron, the main and long soil pipes were of heavy cast-iron with lead branches and brass connections, the anti-siphonage pipes were of 2 in. and 3 in. galvanized steam barrel, and the main hot and cold supply pipes were of galvanized steam barrel with copper and lead branches.

At the conclusion of the visit the thanks of the party were tendered to Mr. Selfridge for affording an opportunity for the inspection, and to Mr. Stokes and Mr. Stitson for explaining the installation.

### East End Timber Yard Fire.

The disastrous fire at the timber yard of Messrs. J. Gliksten & Son, Ltd., Stratford, E., on Monday last, destroyed a sawmill and other buildings, cranes, vehicles, and large stocks of timber. The yard was one of the largest and best-equipped in the country, and much of the timber had been seasoning for 30 years. The origin of the fire which started in a remote part of the 20-acre yard, is said to be unknown.

## NEW COMPANIES.

THE particulars quoted below have been compiled by Messrs, Jordan & Sons, Ltd., Company Registration Agents, of 116, & 117, Chancery-lane, W.C. 2, from the documents available at the Companies' Registry.

BRICOLIA, LIMITED. (175,104). Registered June 8. The Laboratories, Throwley-road, Sutton, Surrey. Brick, tile, pottery and chemical manufacturers. Nominal capital, £105.

WESTERN COUNTIES GRANITE CO., LTD. (175,161). Cornwall House, Mitcham-road, Croydon, Surrey. Registered June 10. Nominal capital, £1,000.

BUILDING EQUIPMENT CO., LTD. (175,163). 199, Piccadilly, W. 1. Registered June 11. Builders and contractors. Nominal capital, £10,000.

ANDREW KNOWLES' WHARVES, LTD. (175,206). Registered June 15. Pendlebury, near Manchester. Coal merchants, brick and tile makers, &c. Nominal capital, £55,000.

CHAPPELL & Co. (R. WHITE), LTD. (175,231). Registered June 16. 11, Pancras-lane, Queen-street, E.C.4. Builders, decorators and contractors. Nominal capital, £6,000.

SUPER ENAMELS, LTD. (175,320.) Registered June 21, 30 and 31, St. Swithin's-lane, E.C. 4. Manufacturers of and dealers in enamels, paints, varnishes, distempers, and other colouring materials. Nominal capital, £2,250.

BRITISH AND FOREIGN TIMBER CO. (1921), LTD. (175,329.) Registered June 22. Nominal capital, £3,000.

ARTHUR THORNBOROUGH, LTD. (175,362.) Registered June 24. Hampden-lane Works, Tottenham, N. 17. Joinery and timber merchants. Nominal capital, £25,000.

MCMULLEN & WOODCOCK, LTD. (175,378.) Registered June 24. 28, Albert-street, Mill Hill, Blackburn. Timber merchants and sawmill proprietors. Nominal capital, £2,000.

YORK AND ACOMB BRICK WORKS, LTD. (175,446). Registered June 28. The Brick Works, Hull-road, York. Brick and tile manufacturers. Nominal capital, £15,000.

FOULIS CONSTRUCTION SUPPLY, LTD. (175,407). Registered June 27. 50, Pall Mall, S.W.1. Merchants and dealers in materials, plant and machinery of all kinds. Nominal capital, £10,000.

T. SOBEY, LTD. (175,494). Registered June 30. 34, Lamb's Conduit-street, W.C.1. Builders and decorators. Nominal capital, £1,000.

TIMOTHY ASHWORTH & SONS, LTD. (175,582). Registered July 6. Builders and contractors. Nominal capital, £2,000.

VINCENT KNOWLES & SONS, LTD. (175,584). Registered July 6. 6-8-10, Saint James-street, Kingston-upon-Hull. Builders and contractors. Nominal capital, £7,000.

PONTYPOOL BUILDERS' SUPPLY CO., LTD. (175,747.) Registered July 15. The Depôt, Park-road, Pontypool. Nominal capital, £5,000.

### Presentation to Sir Frederick Rice.

AN interesting function took place on the 21st ult., at the Hotel Rubens, Buckingham Palace-road, when a few personal friends of Lieut.-Colonel Sir Frederick G. Rice, of Messrs. Rice & Son, the well-known firm of building contractors of Stockwell, entertained him at a dinner to congratulate him on the honour recently conferred by H.M. the King. Several of those present, in speaking, referred to the very great services which Sir Frederick had rendered in such a quiet and unobtrusive manner and which thoroughly earned him his Knighthood. Reference was also made to Sir Frederick's work in training Cadets for H.M. Army. Sir Frederick, in an interesting and humorous speech, suitably acknowledged the reference to his work and was presented with a silver loving cup dated A.D. 1720, as a memento of the occasion.

## RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the building trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur :—

| | Masons. | Brick-layers. | Car-penters, Joiners. | Plas-terers. | Slaters. | Plum-bers. | Painters. | Masons' Labourers. | Brick-layers' Labourers. | Plas-terers' Labourers. |
|---|---|---|---|---|---|---|---|---|---|---|
| Aberdare | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Accrington | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Altrincham | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Ashton-under-Lyne | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Barnsley | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Barrow-in-Furness | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Barry | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Bath | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | | 1/6 | |
| Bedford | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Birkenhead | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | | 1/9½ | |
| Birmingham | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Bishop Auckland | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Blackburn | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Blackpool | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Bolton | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Bournemouth | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Bradford | 2/ | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Bridgwater | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | | 1/3½ | |
| Brighton | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Bristol | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Burnley | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Burton-on-Trent | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| Bury | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Cambridge | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Cardiff | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Chatham | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/4 | |
| Chelmsford | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Cheltenham | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | | 1/6 | |
| Chester | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Chesterfield | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Colchester | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Coventry | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Crewe | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| Darlington | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Derby | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Doncaster | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Dudley | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| Durham | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| East Glam. and Mon. Valleys | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Exeter | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/8 | | 1/5 | |
| Folkestone | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/4 | |
| Gloucester | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/9 | | 1/6 | |
| Grantham | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| Grays | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1½ | 2/0 | | 1/9 | |
| Grimsby | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Great Yarmouth | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/4 | |
| Guildford | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Halifax | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Harrogate | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Hartlepools | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Hastings | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/4 | |
| Hereford | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/9 | | 1/6 | |
| Huddersfield | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Hull | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Ipswich | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Lancaster | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Leamington Spa | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| Leeds | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Leicester | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Lichfield | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| Lincoln | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Liverpool | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | | 1/9½ | |
| Llanelly | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| London | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1½ | 2/0 | | 1/9 | |
| Loughborough | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Luton | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Maidstone | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/4 | |
| Manchester | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Mansfield | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Merthyr Tydfil | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Middlesbrough | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Newcastle-on-Tyne | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Newport, Mon. | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Northampton | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| Norwich | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Nottingham | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Oakham | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | | 1/6 | |
| Oldham | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Oxford | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Plymouth | 1/11 | 1/11 | 1/11 | 1/11 | 1/11 | 1/11 | 1/10 | | 1/7 | |
| Pontypridd | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Portsmouth | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Preston | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Reading | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Rochdale | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Rochester | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/4 | |
| Rugby | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| St. Albans | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| St. Helen's | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Scarborough | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| Sheffield | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Shrewsbury | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| Southampton | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Southend-on-Sea | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Southport | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| South Shields | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Stockport | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Stockton-on-Tees | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Stoke-on-Trent | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| Stroud | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/8½ | | 1/5 | |
| Sunderland | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Swansea | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Taunton | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Torquay | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Tunbridge Wells | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Wakefield | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Walsall | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| Warrington | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| West Bromwich | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Wigan | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Windsor | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/5 | |
| Wolverhampton | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | 2/1 | | 1/9 | |
| Worcester | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |
| York | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | | 1/7½ | |

## NORWICH HOUSING SCHEME.

### LABOUR-SAVING MACHINERY.

ON the occasion of the visit of the Surveyors' Institution to Norwich recently, Mr. Arthur E. Collins, M.Inst.C.E. (City Engineer, Norwich), read a paper entitled "Some Notes on Labour-Saving Machinery and Housing Schemes in Norwich," in the course of which he said when sewering operations were started on the Mile Cross Housing Estate the soil was found suitable for the operation of the "Mangnall" earth thrust borer, made by the Hydraulic Engineering Company, with which considerable lengths of pipe sewers (two side by side on the separate system) were constructed without opening trenches in the usual way, the ground openings being limited to pits averaging 60 ft. apart and 5 ft. by 3 ft. by the depth of sewer, from one of which the thrusting tool was forced by hydraulic pressure generated by a petrol engine to the next pit. The accuracy with which the thruster found its mark was extraordinary till one got used to it. After the first few trials no difficulty was found in making good joints, using ordinary socketed stoneware pipes. For deep sewer trenches in building estates or in roads not full of water, gas, electric, telegraph, telephone, compressed air, sewer, surface water, and other pipes and obstructions, a trench "Blondin" had been of great service. Generally, it consisted of two trucks running on a portable rail laid on each side of the site of trench at about 8 ft. gauge. Each truck supported a trestle about 20 ft. high and a box to weight with earth, etc., to about 10 tons; a wire rope joined the tops of the trestles. The trucks and trestles were the length of the "Blondin" or cableway apart (in Norwich 150 ft.). On one truck an electric motor and winding barrels together with what might be called the connections for a stern anchorage, were placed, and on the other a winch to wind the whole machine forward along the rails when it had completed one section of trench and was required for the next. The object of the machine was to place an empty skip in the bottom of the trench beside a navvy and immediately to lift the one he had just filled and transfer it, without handling, to back-fill trench or, if surplus, into a cart. It enabled the work in a street or elsewhere to be confined to its own width, say 10 ft. over all. With its aid open cutting was cheaper at 15 ft. deep than hand labour at 9 ft.; at that depth it was also cheaper than tunnelling.

To get trenches properly consolidated a petrol-driven rammer was used, which did the work very thoroughly, but was not quite suitable in clay by reason of adhesion to the rammer. That machine had been found useful for ramming road patches, etc. For pumping very wet trenches one of the best pumps was the "Woodford" centrifugal trench pump, which with its vertical driving shaft was built into a square, angle-iron frame, forming the bottom of a series of frames each with its section of vertical pipe and driving shaft, and terminating in a top section containing a driving pulley or an electric motor. By coupling together the requisite number of sections the combined frame, with its self-contained pump, shafting, pipes, and driving pulley, was made of the necessary length to suit the depth of excavation, and the machine could be dropped into place and set to work with great convenience and expedition. A "Roturbo" pump had been similarly fitted up in the Works Department.

By reason of the shortage of men for exterior plastering, a cement gun had been introduced on housing work with satisfactory results. Plastering materials were forced on to the surface at high pressure and velocity, with the result that an extremely dense coating was constructed. With ordinary Portland cement the plastering became so hard in two days after deposit that it withstood the blow of a hammer as well as similar plastering done by hand did after a week. The rapidity of the work was such that the exteriors of two ordinary cottages could be plastered per day where the work was straightforward. If too coarse or too much sand was used the machine rejected the coarse material or the excess, which lay at the foot of the wall being plastered, and could be taken up and re-used for mixing with cement.

A pneumatic painting and limewashing machine had been in use in Norwich for many years, and where the work was large enough it was very advantageous.

The housing scheme of the Norwich Town Council comprised four estates: The Angel Estate, covering 16 acres, with a total of 144 houses, all of which were in course of erection; the Mile Cross Estate of 102 acres, with 500 houses, 160 of which were being built; the Earlham Estate, with a total of 147 acres, 76 of which were being developed; and the Harford Estate of 151 acres, with 600 houses, none of which had been begun. On the four estates a total of 7 acres had been thrown into old roads for widening purposes, 776.63 acres had been devoted to playing fields and allotments, and 41.21 acres had been allocated to factory sites and public buildings, leaving a net area oc 219.16 acres available for houses, not counting the undeveloped portion of the Earlham Estate.

The houses were mostly of the parlour and three bedroom type, a small proportion having four bedrooms, and were built in blocks of two, three and four houses each. The average cost of those on the Angel Estate, which were being built by direct labour, was £900; and those on the Mile Cross Estate, under construction by contract in concrete and steel, were also expected to cost £900. On the Angel Estate labour accounted for 44.7 per cent. of the cost, and materials for 42.7 per cent., the balance being made up of management and other overhead charges.

## THE NORTH CIRCULAR ROAD.

A SECTION of one of the arterial roads now being constructed at Willesden by the Middlesex County Council in conjunction with the Ministry of Transport by means of unemployed labour was inspected by a party of engineers recently. The route of which this forms a part commences at the proposed junction of the new Great West Road (now under construction) with the existing Bath Road in Chiswick High-road. The route first takes a northerly direction by way of Gunnersbury-lane, passes through Ealing to the Harrow-road, then proceeds in a north-westerly direction to Regent's Park-road in Finchley. From thence it reaches Green-lanes in Southgate. From this point a new road is cut through to Edmonton, from whence the Essex County Council takes up the work.

In describing the work, Mr. A. Dryland, M.I.C.E. (Engineer & Surveyor, Middlesex County Council) said the main object of this arterial road is to give the eastern counties a route round the north of London and so relieve congestion at the centre. The total length of the route in Middlesex is 12½ miles, of which 7½ miles will be entirely new. The lay-out of the new road is 100 ft. wide between fences, the width being divided as follows:—16 ft. on either side is devoted to footpaths; the centre 20 ft. is reserved for a possible high-speed tramway on a sleeper track, or alternatively possible for a special track for heavy vehicles, according to the trend of traffic developments. On either side of this centre track 24 ft. carriageways are being planned.

The section inspected was on a site formerly occupied by sewage filter beds, and does not therefore offer a desirable site for a road from the foundation point of view. For that reason it was considered necessary to construct a foundation of a character affording a maximum degree of stability, and it was thought this could best be obtained by a heavily reinforced concrete slab form of construction. The slab is 8 in. thick, the lower 5 in. being of 5 : 2½ : 1 concrete and the top 3 in. of 3 : 1 : 1. All the ballast and sand is washed, and forms a good aggregate. The reinforcement is the "Walker-Weston" reinforcement, consisting of a double layer framework 5 in. deep, made up of 3/16 in. top and bottom bars, with No. 6 S.W.G. annealed mild steel wires connecting the two layers. The mesh is put together on the site of the road in mats 24 ft. by 6½ ft., and is quickly laid and connected up. The amount of steel in the reinforcement is 10 lbs. per sq. yard. The concrete mixer is of the Lakewood pattern, dealing with a batch of 21 cub. ft. of dry aggregate, producing about 14 cub. ft. of concrete. It is operated by one man and can turn out a completely-mixed batch in two minutes. The feeding is effected by means of gauged Decauville trucks which run on rails at the side of the track, the trucks being lifted and tipped into the feeding hopper by means of a swinging arm operated from the machine. When the full depth of the concrete has been deposited it is finally levelled and consolidated by a petrol-driven machine, tamper-fitted, with a cambered screeding beam followed by a cambered tamping beam, which gives a three-ton blow and consolidates and faces up the concrete. The tamping machine runs on bulb headed rails standing on an 8 in. flange and provided the rails are set true both camber and channel must be mechanically true. The concrete is kept covered for at least three weeks with soil, which is kept moist to enable the concrete to be thoroughly cured and set. It will later be cleaned off and before being exposed to traffic will be tarred and gritted. It is expected that it will satisfactorily withstand the traffic likely to come upon it, but the precaution has been taken of so setting out the levels that an additional road surface may be superimposed if and when it becomes necessary.

The carriageway will be bordered by an *in situ* reinforced concrete kerb 12 in. deep and 8 in. wide, the reinforcement being of strips of "Exmet" expanded metal with felt expansion points at about 20 ft. intervals. No expansion points are provided in the carriageway, it being anticipated that owing to the reinforcement the cracks that will probably arise will be of such a minor character that they will not materially affect the wearing properties of the concrete.

The work is being carried out by unskilled unemployed labour, and mainly, totally unused to navvy work. Moreover, in order to spread relief over as many families as possible the gang is changed every three weeks, which, however desirable from the relief point of view, is inimical to economical working. Every change of gang produces a drop in the output of some 30 per cent. for the first few days. At present the cost, allowing for full depreciation on all plant and for supervision expenses, is working out at about 23s. 10d. per super. yard, of which 3s. 8d. is applicable to the reinforcement. The ballast and sand is costing about 18s. per ton, and cement 90s. per ton.

The work in the Willesden area is being carried out through the agency of the Willesden Urban District Council by Mr. F. Wilkinson, M.I.C.E., the Council's Engineer; the Resident Engineer on No. 1 section being Mr. H. C. Fowler, A.M.I.C.E. Mr. E. Scott is the Resident Engineer of No. 2 Section.

### Building in the Federated Malay States.

Mr. A. B. Voules, Acting British Resident of the State of Negri Sembilan (one of the Federated Malay States), in his annual report, says: "In common with other States, Negri Sembilan has suffered severely from the shortage of house accommodation for European officers and clerks. The rise in the cost of house building has been phenomenal. Quarters which in 1912 cost $15,000 (£1,750) can now only be built at a cost of $48,000 (£5,250). There are, however, signs that costs are decreasing." Similar complaints, we are informed, come to hand from other parts of the Far East, and are indicative not only of increased prices for building material, but of higher wages for native labour. There is a tendency in countries which suffer from the depredations of the white ant to use iron and ferro-concrete in greater quantities

## NEW INVENTION.

### The "Calver" System of Construction.

This system (the invention of Mr. G. Calver, 73, Townsend-lane, Anfield, Liverpool) is a combination of blocks and slabs so arranged as to preserve features of both forms of construction, *i.e.*, the rigidity and weight bearing of the block and the speed, economy, ventilation, and ease of handling of the slab. The walls consist of piers built at regular intervals of cast blocks, and the spaces between are closed with a flush double panelling of slabs which acts as walling and a stiffening to the piers but does not bear any floor or roof load, the whole of which is taken by the piers.

At the first floor and eaves a continuous reinforced string-course spans and rests upon the piers, forming a complete horizontal tie around the building and conducting all loads on to the piers. The blocks and slabs may be made from any aggregate locally available, *i.e.*, clinker, slag, gravel, &c., but the pre-cast and reinforced lintels which form the string-course are made of ballast or a similar concrete aggregate. The slabs are ordinary flat partition slabs with recessed and projecting edges to form V watertight joints both vertically and horizontally.

As the sections may be cast by hand or machine the system is suitable for small building schemes where the laying down of machinery is not justified or for larger schemes where the use of machinery is imperative.

The system is adaptable to any design of house, but is most economical if the position of the piers allows all slabs to be of the same length and all door and window frames standardised. Bay windows, porches, &c., can be easily built, and any form of roof can be used. The outside finish can be rough-casted, harled, or similarly treated. The air spaces in the walls are continuous vertically from roof to foundation.

All details of construction are to the Standard Specification of the Ministry of Health, except the joists in the first floor which are 16 in. centres (if the wall piers are 4 ft. centres) to avoid placing timbers in the piers. This alteration has the approval of the Ministry. As the cavity in the walls extends from foundation to eaves, gas fires or geysers may be fixed at any point, the cavity forming a ventilating flue for the rooms.

The system is being used for the erection of houses on the Larkhill estate of the Liverpool Corporation by Messrs. Perry & Co. (Bow), Ltd., who are the sole licencees of the system. In the erection of the first blocks of houses on this site the system proved to have considerable possibilities for speedy construction. The scheme was commenced on March 19 last, and by May 11 one block was roofed, one block was up to the wall plate, and five blocks were up to the level of the string-course. The system affords scope for the employment of a large proportion of unskilled men, and in the blocks mentioned only four skilled men were employed.

### Unemployment Benefit and the Miners.

In our issue of April 29 we noted the decision of the Umpire appointed under section 12 of the Unemployment Insurance Act 1920 as to the right of the miners to receive unemployment benefit during the stoppage of work owing to the dispute in which he held that under section 8 subsection (1) the men had lost "employment by reason of a stoppage of work which was due to a trade dispute" and disallowed the claim to benefit. The matter has now been carried a stage further by a decision of the Umpire reported in *The Times* of August 3, in which he held that loss of employment by reason of stoppage of work due to the disrepair of the mines occasioned by the original stoppage of work is also "a stoppage of work which was due to a trade dispute," as it was a natural and almost inevitable accompaniment of a complete stoppage of work which must have been expected and foreseen by both parties during the negotiations which took place both before and after the commencement of the stoppage of work, and claims for unemployment benefit must be disallowed.

## TRADE NEWS.

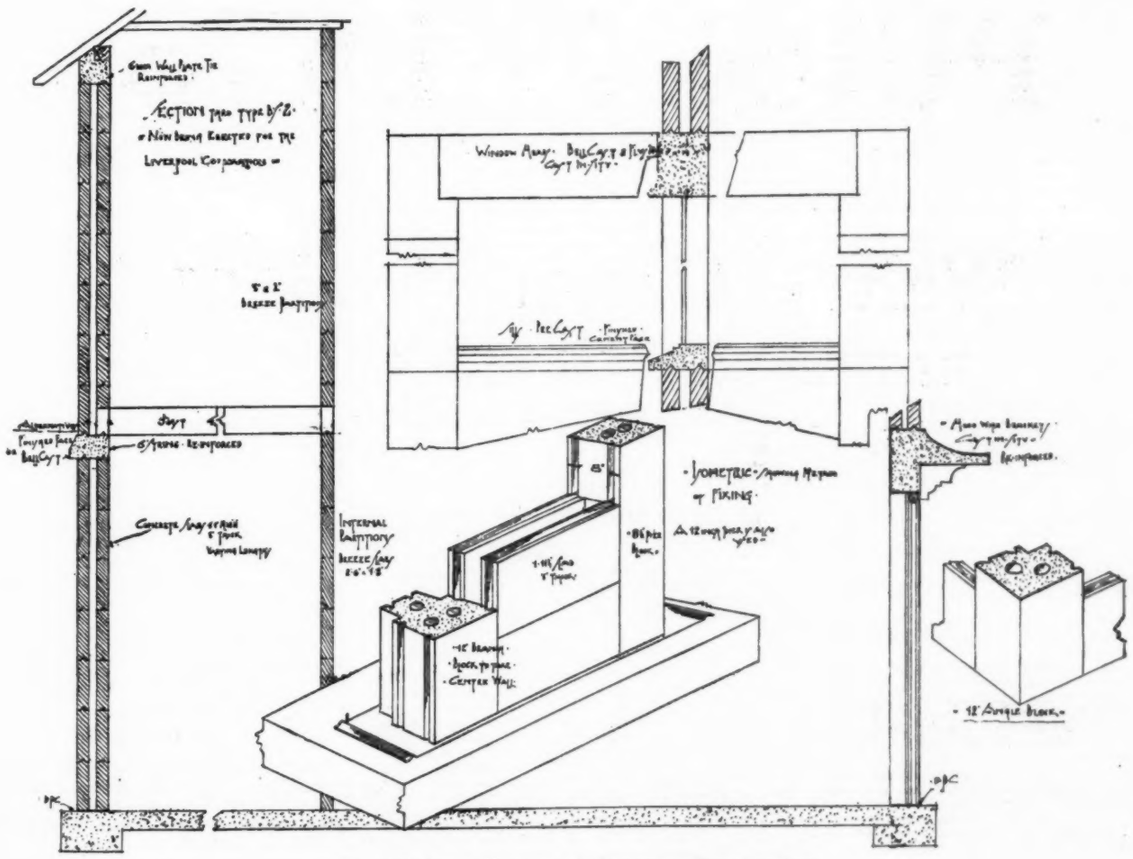
Messrs. Herbert Morris, Ltd. (Loughborough), have issued a new list (No. 90) of their cranes, jacks, pulley blocks, runways, capstans, trucks, and other lifting and hauling apparatus. Working, loads, sizes, and prices are fully set out, and many of the appliances are illustrated.

The economy that can be effected by the use of built-in gas fires and the elimination of the chimney breasts necessary when the ordinary type of open coal fire is installed has frequently been pointed out in our pages, and is admirably illustrated in a brochure entitled "The Case for the Gas Fire in Housing Schemes," issued by the Davis Gas Stove Co., Ltd. (60, Oxford-street, London, W. 1). As the title indicates, the gas fires, stoves, coppers, water-heaters, &c., dealt with are of the less expensive variety, combining cheapness with durability and good design. The method of constructing walls with small flues for the escape of the fumes to an opening under the eaves is illustrated by diagrams; the saving by this method of construction is estimated at £62 11s. 10d. A novelty illustrated is a reinforced concrete mantel and surround, shelf and raised hearth, which is considerably cheaper than the usual cast-iron type.

James Willing, Ltd., Newspaper Advertisement Contractors, who have been in business in the Strand for over 45 years, are compelled to seek new offices owing to the acquirement of their premises under the Strand Widening Scheme, and they moved on August 11 to 30, King-street, Covent Garden, W.C. 2.

### Building Materials.

Sir A. Mond (Minister for Health) informed Major Prescott, in the House of Commons, that the department of building material supplies would be brought to an end as soon as its business could be wound up, the bulk he hoped about the end of the financial year. The approximate outstanding commitments in respect of England and Wales amounted to £4,250,000.



The "Calver" System of Concrete Construction.

# PROPOSED NEW BUILDINGS AND OTHER WORKS.*

**IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.**

BOLTON.—Plans passed by T.C.:—Messrs. J. J. & R. Haslam, for transformer house, Tonge Fold; Messrs. Wolfenden & Son, sanitary additions, Asia Mill, Great Lever; workshops fo the blind, for cloakroom, &c., "Woodlands," Green-lane; Mr. Harry S. Porter, additions, New Hall Farm; Sakel Spinning Co., sanitary works, Melrose Mill; Mr. William Eaves, crossing, Defence-street; Mr. J. Longworth, baker's oven, 253, Halliwell-road; Chorley Old-road Congregational Church, temporary huts, Northern-grove; Mr. H. Nuttall, garage, 80, Chorley New-road; Mr. Robert Binks, showroom, Chorley Old-road; Mr. William Wright, garage, 18, Blackburn-road; Mr. Stanley Porter, garage and verandah, 116, Chorley New-road; Mr. P. Rothwell Jackson, wooden garage, Back Park-road; Mr. Thomas Lever, re-building of sheds, Back Deane Church-lane; Mount St. Joseph's Convent, cloakroom, &c., Hawthorn-road.

BOSTON.—Plans for petrol stores by Messrs. T. Kitwood & Son, in Mitre-lane, and for additions and alterations to 28, High-street, by Mr. Teall, have been passed.

BRIGHTON.—The T.C. has adopted recommendations for the alteration of the Preston Circus fire station at an estimated cost of £1,013.

BUXTON.—Plans passed by T.C.:—Alterations to Manor House, for Mr. H. Frood; lavatories at the Grange, for Miss Dodd; garage at Combermere House, for Mr. E. E. Pugh; garage at Lyndhurst, for Mr. C. Caulfield; additions to café in Spring-gardens, for Messrs. T. Collinson & Sons, Ltd.

DEWSBURY.—Plans passed by T.C.:—H. Taylor, shed, Thornville-street; E. & A. Brook, garage and stable, Slaithwaite-road; Standard Patent Glazing Co., leadizing shop, Forge-lane; Northern Theatre Co., Ltd., lavatories, Theatre Royal; Ramsden, Sons & Greenwood, petrol store, Leeds-road; F. W. Woolworth & Co., Ltd., alterations, &c., 65, Westgate; Mark Day & Son, new shed, West town; Standard Patent Glazing Co., Ltd., wood sheds and petrol store, Forge-lane; R. W. Grubb, motor shed, Claremont-road.

DONCASTER.—Mr. A. O. Edwards, of Hamilton Lodge, has presented to the Doncaster Corporation Highways Committee plans for the lay-out of the Wheatley Hills estate, and for the erection of 113 bungalows and houses. The plans have been passed.

DURHAM.—The C.C. has adopted the report of the E.C., which states that the plans recommended for adoption included the following:—Hunwick—new school for 360 older children and 200 infants, cost £21,805; Fishburn—new school for 400, cost £21,581; infants' department for 200 to be proceeded with later; Sunniside—remodelling of the present buildings for older scholars' accommodation and provision of new infants' department for 200, total cost £12,000; West Cornforth—new school for 400 older children and 360 infants, cost £31,062. The committee had decided that the proposal to provide a new R.C. school at Belasis Garden City, Haverton Hill, was not unreasonable, but with regard to a similar proposal for the provision of 150 more places at the Crook R.C. school, they were not prepared to sanction more than 105 new places.

EASINGTON.—An enquiry has been held by the Ministry of Health into the application of the R.D.C to borrow £56,000 for the carrying out of a water scheme for the parishes of Castle Eden, Easington Haswell, Hutton Henry, Shotton, Thornley and Wingate.

EPSOM.—The sanction of the Board of Education to the scheme for the Technical Institute being used as a secondary school for girls has been obtained. There will be accommodation for 160 girls. The cost of adaptation will be £1,500.

FOLESHILL.—Plans passed by R.D.C.: bungalow for Mr. F. J. Baxter, at Crescent-avenue, Stoke, and garage for Mr. S. Littlemore, at Copsewood-terrace, Stoke.

GLASGOW.—At a sitting of the Glasgow Dean of Guild Court the following linings were granted:—Glasgow Corporation Gas Department to erect exhauster house at Provan Gasworks; Education Authority of Glasgow to erect temporary shelter at Shawlands Academy, and make alterations and additions at John-street School, Bridgeton; John Caldwell, builder, 290, Kilmarnock-road, to erect two villas in Corrour-road and St. Bride's-road; Samuel Rosenbloom, 139, St. Vincent-street, president of the Jewish Athletic Club, to erect a tennis pavilion at Camphill-avenue, Langside; Distillers Co., Ltd., 4, Muirhead-street, to make alterations in buildings there; Alfred J. Carter, 34, Garthland-drive, Dennistoun, to erect picture house in Dumbarton-road, Whiteinch.

GLOUCESTER.—The T.C. has instructed Mr. Stratton Davis to prepare plans for extensions at the Electricity works.

HETTON.—The Ministry of Health has informed the U.D.C. that it is prepared to consider tenders for the erection of 50 houses.

HEYWOOD.—The Housing Committee has again decided to recommend the acceptance of a tender from the Building Guild for the erection of 88 houses at Barley Hall. Some months ago they made this recommendation, but the Ministry of Health refused to accept it, as the full number of Guild contracts for the district had been allotted. A short time back an intimation was received that further tenders by the Guild would now be considered by the Ministry. As prices have greatly changed in the interval, the Committee decided to ask for new tenders. Seven were received, and again the Committee have decided to recommend the acceptance of the one by the Building Guild.

HOUGHTON-LE-SPRING.—Plans passed by U.D.C.: Factory for Messrs. Wheatley Bros., at the Lake; house, Stanley-street, for Mr. J. Tindale; bungalow for Mr. E. Wilkinson, Gillis-lane; alteration to house and shop occupied by Mr. E. Stanger in Newbottle-street; addition to bungalow, for Mr. J. R. Elliott.

HULL.—Plans passed by T.C.:—Trustees, Newland Social Institute, additions, Exmouth and Lambton-streets; Shaw & Gaskell, extensions, Stoneferry-road; W. L. Thompson, Ltd., shed, 236, Anlaby-road; Needler's, Ltd., lavatories, Bournemouth-street; Needler's, Ltd., covered loading way, Bournemouth street; W. Cotton, additions, Hardy-street; W. Witting, bay windows, 48, Park-avenue; Hull Oil Manufacturing Co., Ltd., office additions, Stoneferry; G. Bayram, workshop additions, 80A, Newland-avenue; Hull Brewery Co., Ltd., sanitary improvements, "Barrel Tavern," New George-street; J. Annis, additions, Upper Union-street; Hull Co-operative Society, Ltd., additions, Parrott-street; Shaw & Gaskell, offices, Stoneferry-road; H. B. Ward, shop front, 821, Hessle-road; Humber Shipwright Co., Ltd., workshops, &c., St. Andrew's Dock; Robins & Johnson, garage additions, 78, Newland-avenue; A. Hatton, additions, 646, Holderness-road; F. Trippett, alterations, Saville-street; E. Gordon, additions, Park-street.

LANARK.—An estimate for 274 houses, at a cost of £223,629, has been passed by the Lower Ward District Committee of Lanark County Council. The houses will be of stone fronts, with gables and brick backs.

LINCOLNSHIRE.—The Lindsay C.C. has confirmed the report of the Education Committee which recommended that £1,150 be expended in the provision of an infants' school at Brigg, £400 in additional accommodation at Horncastle Grammar School, and £550 in the re-erection of a temporary school at Santon-terrace; further, that the Finance Committee be requested to take steps for borrowing £3,650 to provide a new school at Ashby.

MANCHESTER.—The T.C. is applying to the Ministry of Transport for sanction to borrow £56,000 for the reconstruction of tramways in Audenshaw and Denton.

NEWCASTLE-ON-TYNE.—At a meeting of the Corporation Housing Committee, a letter was read from the Ministry of Health, agreeing to the erection of 200 or 300 houses on the Pendower Estate, and a further batch of about 100 at Walker. The committee agreed that 300 additional houses should be built at Pendower, and 156 at Walker. These houses are in addition to the various housing schemes already sanctioned.

OSSETT.—Garage, Belgrave-street, for Mr. C. Ingham.

PETERBOROUGH.—Plans for a bungalow on the Broadway, for Mr. R. W. Garner, have been passed.

PORTSMOUTH.—The Education Committee are acquiring a site for a new school between Methuen and Highland-roads, Eastney. The land will cost them £2,000, and application is being made to the Board of Education for their approval.

ROTHERHAM.—Plans passed by T.C.: Mr. A. G. Treherne Herringthorpe-lane, pair of semi-detached houses; Messrs. Mappin's Masbro' Old Brewery Co., Ltd., Corporation-street, alterations to garage at the "County Borough Hotel"; Mr. E. Ogley, Bradgate-lane, pair of semi-detached houses; Mr. Andrew Maserella, 37, College-road, alteration; Wagon Repairs, Ltd., Fullerton-road, alteration to offices; Mr. Charles Wm. Hall, 7, Eastwood mount, motor shed.

SALFORD.—Plans passed:—Construction of petrol tank and pump, Clarendon-road, Salford; alterations to Seedley Cinematograph Theatre, Langworthy-road, Pendleton; premises, 15–23, Blackfriars-street, Salford; premises, Quay-street, Salford. Additions to dwelling-house, "Marbury," Singleton-road, Broughton; dwelling-house, "Doreen Mount," Bury Old-road, Broughton Construction of garage and store-rooms, Park-street, Salford; two semi-detached dwelling-houses, Sorrel Bank, Eccles Old-road, Pendleton; boiler and chimney, Croft-street, Pendleton; drain, Myrtle-grove Dye Works, Prestwich; retaining wall, Crowther-street and Croft-street, Salford. Alterations to stand at Cattle Market, Cross-lane, Salford. Calculations for steelwork, Seedley Cinema, Langworthy-road, Pendleton.

SHEFFIELD.—It is proposed to convert the Central Lending Library to the open access system, at an estimated cost of £1,500.

SOUTH SHIELDS.—Plans passed by T.C.: Mr. Howard Hill, for Mr. S. F. Whittles, workshop and store, Back Winchester-street; Messrs. T. A. Page & Son, for Mr. W. Glaze, theatre, Wallis-street; Mr. F. W. Newby, for outh Shields Association Football Club, extension to grand stand at football ground, Horsley Hill-road.

STAFFORDSHIRE.—The C.C. has approved plans for the adaptation of Wood Green Lodge as a secondary school.

STEPNEY.—Buildings, 27, Church-row, for Mr. G. G. Wimborne.

THURMASTON.—The U.D.C. has passed plans for a bungalow in Humberstone-lane, for Mr. A. G. Stevens.

WAYLAND.—Two houses at Eccles, for Messrs. Drane.

WORTHING.—Plans passed under Section 1 of the Housing Act: Two detached houses, Parkfield-road, for Mr. A. E. Child; two detached houses, Langton-road, for Mr. J. Worton; two houses, Mill-road, west of the West-avenue, for Mr. A. A. Adams two houses, fronting the Marine parade, for Mr. W. A. Jolton; timber-framed house, Elm-grove, for Mr. H. Tier; house, Homefield-road, for Mr. D. F. Judd; house, Mill-road, for Mr. H. Hart; house, Grand-avenue, for Miss K. J. Johnston; house, Elm-grove, for Mr. C. J. Pead; two houses, Langton-road, for Mr. J. H. Worton.—Passed by T.C.: Garage, "Sunny Bush," Reigate-road, Mr. E. W. Sparks, for Mr. H. Horley; shop-front, Market-street, Mr. H M. Potter, for Mr. R. Stent; addition to "Wynola," Belsize-road, Mr. J. E. Lund, for Mr. H. A. Keep; addition, 20, Teville-road, Mr. H. M. Potter, for Mr. G. W. Head; three blocks of flats, Church-walk, for Mr. S. Burdwood.

WREXHAM.—The T.C. has received permission from the Ministry of Health to erect 22 more houses in addition to the 118 now nearing completion.

* See also our List of Contracts, Competitions, etc.

## FIRES.

DALKEITH.—By a fire which broke out in the property in Vint's Close, Dalkeith, belonging to Mr. William Thornburn, plumber, about £600 damage was done.

LEICESTER.—The premises of Messrs. Morton & Son leather factors, Alfred-place, have been destroyed by fire.

MIRFIELD.—An outbreak of fire on the premises of Messrs. T. Brook & Son, bobbin makers, has destroyed the works completely.

RUSHDEN.—The boot factory of Jacques, Ltd., has been gutted by fire.

STAMFORD.—A destructive fire has occurred at the works of Messrs. Hayes & Sons, coach and motor body builders.

STOGURSEY.—A fire has occurred at Gunter's Grove Farm, Stogursey, and several farm buildings, the property of Mrs. Shaw, of Steyning Manor, have been destroyed.

WISBECH.—Extensive damage has been done by fire at Messrs. Keiller's jam factory.

## British Engineering Standards Association.

The British Engineering Standards Association has held its third annual meeting at the Institution of Civil Engineers, when the Chairman (Sir Archibald Denny, Bart.), presented his annual report and made a review of the position. The Chairman said there were now more than 1,500 engineers who gave their time and experience to this national work but, whereas engineers generally took the keenest interest in the various problems submitted to the Association, the business community was not as impressed as it should be with the commercial value of standardisation; otherwise the Association would not have so much difficulty each year in raising the comparatively small sum required for this work, which is of such value to the trade and commerce of the country. Last year £15,000 was expended, of which the industry of the country contributed about £10,000, the remainder being in the nature of grants from the Treasury and the Indian and Dominion Governments. If there were only a stronger link between the engineering and the selling side of industry, those who hold the purse-strings would realise to a greater extent their privileges as well as their obligations, and so enable the Association adequately to cope with the increasing demands being made upon its organisation.

## Manchester Roads.

According to the report of the Committees of Manchester Corporation the Paving, Sewering, and Highways department has made considerable progress during the year in the reconstruction and strengthening of the city's main roads. About 27,653 square yards of new granite setts have been laid on concrete foundations, in addition to 9,088 square yards laid in secondary roads. From the Road Board the department has received and used £99,709 for work on main roads, and an additional £44,909 has been borrowed with the approval of the Ministry of Health and spent for the same purpose. Some lengths of concrete road have been laid as an experiment, and so far seem to be satisfactory. The city now has 553 miles of public highways under its care. An application has been made for the borrowing of money to build washhouses, while the Waterworks Committee announces that it is proposed to begin as soon as possible the construction of the northern part of the Ribble siphon pipe line. This is a portion of the pipe from the Thirlmere reservoir, and will cost about £206,000.

## Road Widening.

The Lyaton Rural District Council have adopted the suggestion of the Highway Surveyor that the roadway on Countisbury Hill, where the recent fatal motor accident occurred, should be widened from 11 ft 6 in. to 20 ft. The scheme has been submitted to the Ministry of Transport.

# PRICES CURRENT OF MATERIALS.*

**[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue various revisions have been made.—Ed.]**

## BRICKS, &c.

| | £ s. d. |
|---|---|
| Per 1,000 Alongside, in River Thames up to London Bridge. | |
| Best Stocks | 5 1 6 |
| Per 1000, Delivered at London Goods Stations. | |
| | £ s. d. |
| Flettons | 3 17 0 |
| Best Stourbridge Fire bricks | 12 14 0 |
| GLAZED BRICKS— | |
| Best White, Ivory, and Salt Glazed Stretchers | 28 10 0 |
| Headers | 28 0 0 |
| Quoins, Bull-nose and 4½in. Flats | 35 0 0 |
| Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white. | |

| | s. d. | |
|---|---|---|
| Thames Ballast | 16 6 | per yard, delivered 2 miles radius Paddington. |
| Pit Sand | 21 0 | " " |
| Thames Sand | 21 6 | " " |
| Best Washed Sand | 21 6 | " " |
| ½in. Shingle for Ferro-Concrete | 21 0 | " " |
| ¼ in. " " | 22 0 | " " |

Per ton. delivered in London area.

| | £ s. d. | £ s. d. |
|---|---|---|
| Best Portland Cement | 4 7 6 | 4 13 0 |
| 80/6 alongside at Vauxhall in 80-ton lots. | | |
| Ferrocrete per ton extra on above | | 10 0 |
| Best Ground Blue Lias Lime | 3 12 6 at rly. depot. | |

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. The sacks are charged at 2s. 6d. each and credited at 2s. each if returned in good condition within three months.

Grey Stone Lime ..... 74s. 0d. per ton delivered.
Stourbridge Fireclay in s'cks 44s. 8d. per ton at rly. dpt.

## STONE.

| | s. d. |
|---|---|
| BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube | 3 2½ |
| Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube | 3 5½ |
| Do. do. delivered on road wagons at Nine Elms Depot | 3 6½ |
| PORTLAND STONE— | |
| Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L.& S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube | 4 11½ |
| Do. do. delivered on road wagons at above stations, per ft. cube | 5 0½ |
| White basebed, 3d. per ft. cube extra. | |
| NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft. | |
| YORK STONE, BLUE—*Robin Hood Quality.* | |
| Delivered at any Goods Station London. | s. d. |
| Scappled random blocks .....Per Ft. Cube | 14 5 |
| 6 in. sawn two sides landings to sizes (under 30 ft. super.) .....Per Ft. Super | 9 0 |
| 6 in. rubbed two sides, ditto ..... " | 10 1 |
| 3 in. sawn two sides slabs (random sizes) " | 3 11 |
| 2 in. to 2½ in. sawn one side slabs (random sizes) ..... " | 2 5 |
| 4½ in. to 2 in. ditto, ditto ..... " | 2 0 |
| HARD YORK— | |
| Delivered at any Goods Station London. | |
| Scappled random blocks .....Per Ft. Cube | 9 3 |
| 6 in. sawn two sides landing to sizes (under 40ft. super.) .....Per Ft. Super | 8 6 |
| 4 in. rubbed two sides ditto ..... " | 10 4 |
| 4 in. sawn two sides slabs (random sizes) " | 4 11 |
| 3 in. ditto, ditto " | 4 0 |
| 2 in. self-faced random flags ..Per Yard Super | 12 2 |

## WOOD.

GOOD BUILDING DEAL.

| Inches | £ s. | |
|---|---|---|
| 4 × 11 | 50 0 | per standard |
| 4 × 9 | 45 0 | " |
| 4 × 8 | 40 0 | " |
| 4 × 7 | 35 0 | " |
| 3 × 8 | 32 0 | " |
| 3 × 7 | 30 0 | " |
| 2½ × 7 | 30 0 | " |
| 3 × 6 | 28 0 | " |
| 3 × 11 | 50 0 | " |
| 2 × 11 | 50 0 | " |
| 3 × 9 | 42 0 | " |
| 2½ × 9 | 44 0 | " |
| 3 × 4½ | 32 0 | " |
| 3 × 4 | 30 0 | " |

PLANED BOARDS.

| | | |
|---|---|---|
| 1 × 11 | 60 0 | " |
| 1 × 9 | 50 0 | " |

PLAIN EDGE FLOORING.

| Inches | | |
|---|---|---|
| ½ | 22/6 | per square |
| ¾ | 26/6 | " |
| 1 | 29/6 | " |
| 1¼ | 35/- | " |
| 1½ | 45/- | " |

TONGUED AND GROOVED FLOORING.

| Inches | | |
|---|---|---|
| 1 | 29/6 | per square |
| 1¼ | 35/- | " |
| 1½ | 45/- | " |

## WOOD (*Continued*).

MATCHINGS (BEST).

| Inches | | |
|---|---|---|
| ½ | 21/- | per square |
| ¾ | 23/- | " |
| 1 | 30/- | " |

BATTENS.

| Inches | s. d. | |
|---|---|---|
| ½ × 2 | 3 6 | per 100 ft. |

SAWN LATHS.

| | | |
|---|---|---|
| Per bundle | 0 4 | 0 |
| Dry Wainscot Oak, per ft. super, as inch | 0 2 6 to | 0 3 0 |
| ½ in. do. do. | 0 1 10½ to | 0 2 6 |
| Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch | 0 2 3 to | 0 3 0 |
| Cuba Mahogany | 0 3 6 to | 0 4 0 |
| Teak (Rangoon, Moulmein or Java), per load | 52 10 0 to | 55 0 0 |
| American Whitewood planks, per ft. cube | 0 16 0 to | 0 18 0 |
| Best Scotch Glue, per cwt. | 10 0 0 to | — |
| Liquid Glue, per cwt. | 5 8 0 to | 6 15 0 |

## SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

| | £ s. d. |
|---|---|
| Best Blue Bangor Slates, 24 by 12 | 56 10 0 |
| " " " 22 by 12 | 46 0 0 |
| First quality " 22 by 11 | 42 10 0 |
| " " 20 by 12 | 42 0 0 |
| Best Blue Portmadoc 20 by 10 | 36 10 0 |
| " " 18 by 10 | 29 10 0 |
| First quality " 18 by 9 | 24 5 0 |
| " " 16 by 10 | 22 15 0 |
| " " 16 by 8 | 18 0 0 |

## TILES.

| | Per 1,000 f.o.r. London. £ s. d. |
|---|---|
| Best machine-made tiles from Broseley or Staffordshire district | 7 15 0 |
| Ditto hand-made ditto | 8 10 0 |
| Ornamental ditto | 7 7 6 |
| Hip and valley tiles (per dozen) | 0 15 0 |

## METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

| | £ s. d. |
|---|---|
| R. S. Joists, cut and fitted | 22 0 0 |
| Plain Compound Girders | 25 0 0 |
| Stanchions | 27 0 0 |
| In Roof Work | 32 0 0 |

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £15 net value delivered direct from works. 5 per cent. less above gross discounts, carriage forward if sent from London stocks.)

| | Tubes. ¼" to 2". | 2¼" to 6". | Fittings. ¼" to 2". | 2¼" to 6". |
|---|---|---|---|---|
| Gas | —25 | —30 | —30 | —37½ |
| Water | —15 | —21½ | —25 | —35 |
| Steam | — 3½ | —11½ | —20 | —32½ |
| Galv'd Gas | — 5 | —10 | —22½ | —30 |
| " Water | + 7½ | + 1½ | —17½ | —27½ |
| " Steam | +20 | +12½ | —12½ | —25 |

L.C.C. COATED SOIL PIPES—London Prices ex works.

| | Pipe. s. d. | Bends, stock angles. s. d. | Branches, stock angles. s. d. |
|---|---|---|---|
| 2 in. per yd. in 6 fts. | 5 10½ | 4 2 | 5 0 |
| 2½ in. " | 7 0½ | 4 7 | 6 3 |
| 3 in. " | 8 4½ | 5 0 | 7 6 |
| 3½ in. " | 9 8 | 6 3 | 8 9 |
| 4 in. " | 10 7 | 7 1 | 10 0 |

RAIN-WATER PIPES, &c.

| | Pipe. s. d. | Bends, stock angles. s. d. | Branches, stock angles. s. d. |
|---|---|---|---|
| 2 in. per yd. in 6fts. plain | 5 2 | 2 6 | 3 5 |
| 2½ in. " " | 5 9 | 3 0 | 4 2 |
| 3 in. " " | 6 6 | 3 8 | 5 6 |
| 3½ in. " " | 7 9 | 4 4 | 6 5 |
| 4 in. " " | 8 10 | 5 4 | 7 0 |

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices. per yd.: 4 in.. 10/3. ..5 in., 12/3. .. 6 in.. 14/9.

| IRON— | Per ton in London. £ s. d. | | £ s. d. |
|---|---|---|---|
| Common Bars | 19 0 0 | to | 20 0 0 |
| Staffordshire Crown Bars—good merchant quality | 20 0 0 | .. | 21 0 0 |
| Staffordshire "Marked Bars" | 26 0 0 | .. | 27 0 0 |
| Mild Steel Bars | 17 10 0 | .. | 18 10 0 |
| Steel Bars. Ferro-Concrete quality, basis price | 17 10 0 | .. | 18 10 0 |
| Hoop Iron, basis price | 29 0 0 | .. | 30 0 0 |
| " " Galvanised | 43 0 0 | .. | 45 0 0 |
| Soft Steel Sheets, Black— | | | |
| Ordinary sizes to 20 g. | 25 0 0 | .. | 27 0 0 |
| " " " 24 g. | 26 0 0 | .. | 28 0 0 |
| " " " 26 g. | 28 0 0 | .. | 29 0 0 |
| Sheets Flat Best Soft Steel, C.R. & C.A. quality— | | | |
| Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g. | 33 0 0 | .. | 34 0 0 |
| Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g. | 34 0 0 | .. | 36 0 0 |
| Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g. | 36 0 0 | .. | 38 0 0 |
| Flat and Galvanised Corrugated Sheets— | | | |
| Ordinary sizes, 6 ft. to 9ft. 20 g. | 27 0 0 | .. | 28 0 0 |
| Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g. | 28 0 0 | .. | 29 0 0 |
| Ordinary sizes 6ft. to 9ft. 26 g. | 30 0 0 | .. | 32 0 0 |

## METALS (*Continued*).

| | Per ton in London. £ s. d. | | £ s. d. |
|---|---|---|---|
| Sheets Galvanised Flat, Best quality— | | | |
| Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker | 33 0 0 | .. | 34 0 0 |
| Best Soft Steel Sheets, 22 g. and 24 g. | 34 0 0 | .. | 35 0 0 |
| Best Soft Steel Sheets, 26 g. | 36 0 0 | .. | 37 0 0 |
| Cut Nails, 3in. to 6in. | 32 0 0 | .. | 33 0 0 |
| (under 3in. usual trade extras.) | | | |

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 3s. per foot super.

## LEAD, &c.

| | Delivered in London. £ s. d. | | |
|---|---|---|---|
| LEAD—Sheet, English, 4 lb. and up | 36 10 0 | .. | — |
| Pipe in coils | 37 0 0 | .. | — |
| Soil Pipe | 39 10 0 | .. | — |
| Compo pipe | 40 10 0 | .. | — |

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

| | | |
|---|---|---|
| Old lead, ex London area, at Mills per ton | 20 0 0 | — |
| Do., ex country, carriage forward per ton | 21 0 0 | — |

| COPPER— | £ s. d. | | |
|---|---|---|---|
| Strong Sheet per lb. | 0 2 3 | .. | — |
| Thin " | 0 2 4 | .. | — |
| Copper nails " | 0 2 3 | .. | — |
| Copper wire " | 0 2 4 | .. | — |
| TIN—English Ingots " | 0 1 10 | .. | — |
| SOLDER—Plumbers' " | 0 0 11 | .. | — |
| Tinmen's " | 0 1 2 | .. | — |
| Blowpipe " | 0 1 4 | .. | — |

## GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

| | Per Ft. | | Per Ft. |
|---|---|---|---|
| 15 oz. fourths | 4½d. | 32 oz. fourths | 10½d. |
| " thirds | 5½d. | " thirds | 1/- |
| 21 " fourths | 6½d. | Fluted, Obscured and | |
| " thirds | 7½d. | Enamelled Sheet. | |
| 26 " fourths | 8d. | 15 oz. | 7d. |
| " thirds | 9½d. | 21 " | 9d. |

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

| | Per Ft. |
|---|---|
| ⅛ Rolled plate | 5½d. |
| 3/16 Rough rolled | 6½d. |
| ¼ Rough rolled | 7½d. |
| Figured Rolled, Oxford Rolled, Baltic, Oceanic Arctic, Stippolyte, and small and large Flemish white | 7½d. |
| Ditto, tinted | 9½d. |
| Rolled Sheet | 6½d. |
| White Rolled Cathedral | 6½d. |
| Tinted do. | 7½d. |

Cast Plate is ½d. extra on the price of rough rolled.

## PAINTS, &c.

| | £ s. d. | |
|---|---|---|
| Raw Linseed Oil in pipes per gallon | 0 3 10 | |
| " " " in barrels " | 0 3 11 | |
| " " " in drums " | 0 4 0 | |
| Boiled " in barrels " | 0 4 3 | |
| " " in drums " | 0 4 4 | |
| Turpentine in barrels " | 0 6 3 | |
| " in drums (10 gall.) " | 0 6 6 | |
| Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.) | 50 15 0 | |
| GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots ..... per ton delivered | 82 15 0 | |
| Red Lead, Dry (packages extra) .. per ton | 41 0 0 | |
| Best Linseed Oil Putty ..... per cwt. | 0 16 0 | |
| Filocol ..... per cwt. | 0 15 6 | |
| Size. X D Quality ..... firkin. | 0 5 0 | |

## VARNISHES, &c.

| | Per gallon. £ s. d. | |
|---|---|---|
| Oak Varnish | Outside | 0 15 0 |
| Fine ditto | ditto | 0 17 2 |
| Fine Copal | ditto | 1 1 6 |
| Pale Copal | ditto | 1 2 6 |
| Pale Copal Carriage | ditto | 1 4 6 |
| Best ditto | ditto | 1 14 6 |
| Floor Varnish | Inside | 0 19 0 |
| Fine Pale Paper | ditto | 0 18 0 |
| Fine Copal Cabinet | ditto | 1 2 6 |
| Fine Copal flatting | ditto | 1 0 6 |
| Hard drying Oak | ditto | 0 18 0 |
| Fine Hard drying Oak | ditto | 0 19 0 |
| Fine Copal Varnish | ditto | 1 0 6 |
| Pale ditto | ditto | 1 2 6 |
| Best ditto | ditto | 1 14 6 |
| Best Japan Gold Size | | 0 12 6 |
| Best Black Japan | | 0 18 0 |
| Oak and Mahogany Stain (water) | | 0 17 6 |
| Brunswick Black | | 0 11 9 |
| Berlin Black | | 0 16 6 |
| Knotting (patent) | | 1 16 0 |
| French and Brush Polish | | 1 8 0 |
| Liquid Dryers in Terebine | | 0 13 6 |
| Cuirass Black Enamel | | 0 7 0 |

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

# CURRENT PRICES FOR BUILDING WORK IN LONDON.*

## EXCAVATOR.

| | | s. | d. |
|---|---|---|---|
| Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep | per yard cube | 18 | 0 |
| Add if in clay | „ „ | 1 | 10 |
| Add for every additional depth of 6 ft. | „ „ | 1 | 4 |
| Planking and strutting to trenches | per foot super | 0 | 7 |
| Do. to sides of excavation, including shoring | „ „ | 1 | 4 |

## CONCRETOR.

| | | s. | d. |
|---|---|---|---|
| Portland cement concrete in foundation 1 to 6 | per yard cube | 50 | 0 |
| Add if in underpinning in short lengths | „ „ | 9 | 6 |
| Add if in floors 6 in. thick | „ „ | 3 | 10 |
| Add if in beams | „ „ | 4 | 9 |
| Add if aggregate 1 : 2: 4 | „ „ | 14 | 3 |
| Add for hoisting not exceeding 10 ft. beyond the first 10 ft. | „ „ | 4 | 3 |

## BRICKLAYER.

| | | £ | s. | d. |
|---|---|---|---|---|
| Reduced brickwork in lime mortar and Fletton bricks | per rod | 47 | 10 | 0 |
| Add if in stocks | „ | 11 | 17 | 6 |
| Add if in Staffordshire blues | „ | 32 | 15 | 6 |
| Add if in Portland cement and sand | „ | 4 | 10 | 0 |

## FACINGS.

| | | s. | d. |
|---|---|---|---|
| Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks | per ft. super | 0 | 0 | 1½ |

## POINTING.

| | | s. | d. |
|---|---|---|---|
| Neat flat strucks or weathered joint | „ „ | 0 | 0 | 3 |

## ARCHES.

| | | s. | d. |
|---|---|---|---|
| Extra only to the price of ordinary brickwork :— | | | |
| Fair external in half brick rings | „ „ | 0 | 0 | 11½ |
| Axed in stocks | „ „ | 0 | 1 | 11 |
| Rubbed and gauged jointed in putty camber or segmental | „ „ | 0 | 6 | 8 |

## SUNDRIES.

| | | s. | d. |
|---|---|---|---|
| Damp course in double course of slates breaking joint and bedded in Portland cement | „ „ | 0 | 1 | 6 |
| Setting ordinary register grates and stoves | each | 1 | 2 | 6 |
| Setting kitchener, including forming flues, &c., with all necessary fire bricks | „ | 6 | 5 | 0 |

## ASPHALTER.

| | | s. | d. |
|---|---|---|---|
| Half-inch horizontal damp course | per yard sup. | 8 | 0 |
| Three-quarter-inch vertical damp course | „ „ | 14 | 3 |
| One inch on flats in two thicknesses | „ „ | 12 | 0 |
| Angle fillet | per foot run | 0 | 3 |
| Skirting and fillet 6 in. high | „ „ | 1 | 6 |

## MASON.

| | | s. | d. |
|---|---|---|---|
| York stone templates fixed | per foot cube | 19 | 9 |
| York stone sills fixed | „ „ | 31 | 6 |
| Bath stone and all labour fixed | „ „ | 15 | 0 |
| Portland stone fixed | „ „ | 23 | 0 |

## SLATER.

| | | s. | d. |
|---|---|---|---|
| Welsh 16 in. × 8 in. 3 in. lap, including nails | per square | 98 | 0 |
| Do. 20 in. × 10 in. Do. Do. | „ | 115 | 0 |
| Do. 24 in. × 12 in. Do. Do. | „ | 117 | 6 |

## CARPENTER AND JOINER.

| | | s. | d. |
|---|---|---|---|
| Fir framed in plates | per foot cube | 8 | 6 |
| Do. joists | „ „ | 9 | 6 |
| Do. roofs, floors and partitions | „ „ | 10 | 8 |
| Do. trusses | „ „ | 12 | 10 |

| | | ¾″ | 1″ | 1¼″ | 2″ |
|---|---|---|---|---|---|
| Deal rough close boarding | per sq. | 54/- | 73/- | 90/- | 98/- |

| | | s. | d. |
|---|---|---|---|
| Flat centering for concrete floor, including struts or hangers | „ | 64 | 6 |
| Do. to beams | per ft. sup. | 1 | 9 |
| Centres for arches | „ | 2 | 3 |
| Gutter boards and beams | „ | 1 | 8 |

| FLOORING. | | ¾″ | 1″ | 1¼″ | 1½″ |
|---|---|---|---|---|---|
| Deal-edges shot | per sq. | | 74/- | 94/- | 108/6 |
| Do. tongued and grooved | „ | | 80/- | 100/- | 114/- |
| Do. matchings | „ | 66/6 | 81/- | | |
| Moulded skirting, including backings and grounds | per ft. sup. | 2/3 | 2/6 | 3/- | 3/6 |

| SASHES AND FRAMES. | | s. | d. |
|---|---|---|---|
| One-and-a-half moulded sashes or casements | per foot super | 1 | 11 |
| Two Do. Do. Do. | „ „ | 2 | 4½ |
| Add for fitting and fixing | „ „ | 0 | 6 |
| Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size | „ „ | 5 | 3 |

| DOORS. | | 1½″ | 1¾″ | 2″ |
|---|---|---|---|---|
| Two-panel square framed | per ft. sup. | 2/6 | 2/9 | 2/11 |
| Four-panel Do. | „ | 2/10 | 3/2 | 3/5 |
| Two-panel moulded both sides | „ | 3/2 | 3/5 | 3/8 |
| Four-panel Do. Do. | „ | 3/6 | 3/9 | 4/- |

## CARPENTER AND JOINER—continued.

### FRAMES.

| | | s. | d. |
|---|---|---|---|
| Deal wrot moulded and rebated | per foot cube | 21 | 0 |

| | | 1″ | 1¼″ | 1½″ |
|---|---|---|---|---|
| Plain deal jamb linings framed | per ft. sup. | 2/1 | 2/3 | 2/6 |
| Deal shelves and bearers | „ | 1/10 | 2/- | 2/1 |
| Add if cross tongued | „ | 2d. | 2d. | 2d. |

### STAIRCASES.

| | 1″ | 1¼″ | 1½″ | 2″ | 2½″ |
|---|---|---|---|---|---|
| Deal treads and risers in and including rough brackets | 3/2 | 3/10 | 4/5 | — | — |
| Deal strings wrot in both sides and framed | 4/3 | 4/6 | — | — | — |

| | | s. | d. |
|---|---|---|---|
| Housings for steps and risers | each | 0 | 11½ |
| Deal balusters, 1 in. × 1¼ in. | per ft. run. | 0 | 9 |
| Mahogany handrail; average 3 in. × 3 in. | „ „ | 6 | 0 |
| Add if ramped | „ „ | 11 | 10 |
| Add if wreathed | „ „ | 23 | 9 |

### FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

| | | | |
|---|---|---|---|
| 6 in. barrel bolts | 8½d. | Rim locks | 2/4½ |
| Sash fasteners | 11½d. | Mortice locks | 5/3 |
| Casement fasteners | 1/5 | Patent spring hinges and letting in to floor and making good | 19/- |
| Casement stays | 1/2 | | |
| Cupboard locks | 1/5 | | |

## FOUNDER AND SMITH.

| | | s. | d. |
|---|---|---|---|
| Rolled steel joists | per cwt. | 25 | 0 |
| Plain compound girders | „ | 28 | 0 |
| Do. stanchions | „ | 31 | 0 |
| In roof work | „ | 36 | 0 |

## RAIN-WATER GOODS.

| | | 3″ | 4″ | 5″ | 6″ |
|---|---|---|---|---|---|
| Half-round plain rebated joints | ft. run | 1/11 | 2/4½ | 3/7 | 4/- |
| Ogee Do. Do. | „ | 2/4½ | 3/1 | 3/10 | 4/9 |
| Rain-water pipes with ears | „ | 2/9 | 3/7 | | |
| Extra for shoes and bends | each | 4/4 | 5/11 | | |
| Do. stopped ends | „ | 1/11 | 2/4½ | 3/7 | 4/- |
| Do. nozzles for inlets | „ | 2/2 | 2/7 | 3/10 | 4/3 |

## PLUMBER.

| | | s. | d. |
|---|---|---|---|
| Milled lead and laying in flashings and gutters | per cwt. | 58 | 0 |
| Do. Do. in flats | „ | 54 | 0 |
| Extra labour and solder in coated cesspools | each | 7 | 4 |
| Welt joint | per ft. run. | 0 | 6 |
| Soldered seam | „ „ | 1 | 10½ |
| Copper nailing | „ „ | 0 | 7 |

| | | ½″ | ¾″ | 1″ | 1½″ | 2″ | 4″ |
|---|---|---|---|---|---|---|---|
| Drawn lead waste | per ft. run | 11d. | 1/7 | 1/10 | 3/3 | 4/- | |
| Do. service | „ | 1/6 | 2/- | 2/4 | 3/8 | | |
| Do. soil | „ | | | | | | 6/6 |
| Bends in lead pipe | each | | | | | 3/5 | 8/7 |
| Soldered stop ends | „ | 1/3 | 1/9 | 2/2 | 3/- | 3/8 | |
| Red lead joints | „ | 11d. | 1/- | 1/4 | 2/- | 2/6 | 5/1 |
| Wiped soldered joints | „ | 3/- | 3/8 | 4/3 | 5/2 | 6/10 | 10/3 |
| Lead traps and cleaning screws | „ | | | | 15/4 | 20/6 | |
| Bib cocks and joints | „ | 7/1 | 10/8 | 17/1 | 45/6 | | |
| Stop cocks and joints | „ | 17/1 | 19/- | 28/6 | 71/3 | | |

## PLASTERER.

| | | s. | d. |
|---|---|---|---|
| Render, float and set in lime and hair | per yard sup. | 3 | 2 |
| Do. Do. Sirapite | „ „ | 3 | 7 |
| Do. Do. Keen's | „ „ | 4 | 9 |
| Add sawn lathing | „ „ | 1 | 11 |
| Add metal lathing | „ „ | 3 | 4 |
| Portland cement screed | „ „ | 2 | 9 |
| Do. plain face | „ „ | 4 | 6 |
| Mouldings in plaster | per 1 girth | 0 | 3 |
| One-and-a-half granolithic pavings | per yard sup. | 6 | 7 |

## GLAZIER.

| | | s. | d. |
|---|---|---|---|
| 21 oz. sheet plain | per foot sup. | 1 | 4 |
| 26 oz. Do. | „ „ | 1 | 7 |
| Obscured sheet | „ „ | 1 | 9 |
| ⅛ in. rolled plate | „ „ | 1 | 0 |
| ¼ in. rough rolled or cast plate | „ „ | 1 | 1 |
| ¼ in. wired cast plate | „ „ | 1 | 7 |

## PAINTER.

| | | s. | d. |
|---|---|---|---|
| Preparing and distempering, 2 coats | per yard sup. | 1 | 5 |
| Knotting and priming | „ „ | | 11 |
| Plain painting 1 coat | „ „ | 1 | 5 |
| Do. 2 coats | „ „ | 2 | 3 |
| Do. 3 coats | „ „ | 3 | 0 |
| Do. 4 coats | „ „ | 3 | 10 |
| Graining | „ „ | 2 | 10 |
| Varnishing twice | „ „ | 2 | 4 |
| Sizing | „ „ | 0 | 4 |
| Flatting | „ „ | 0 | 9 |
| Enamel | „ „ | 1 | 11 |
| Wax polishing | per foot sup. | 0 | 10½ |
| French polishing | „ „ | 1 | 8 |
| Preparing for and hanging paper | per piece | 2/- to 5/- | |

* These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

# CONTRACTS, COMPETITIONS, &c.

**For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.**

***The date given at the commencement of each paragraph is the latest date when the tender, or the name of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.***

## BUILDING AND PAINTING.

AUGUST 15.—**Bridgend.**—HOUSES.—Erection of 100 houses, also tenders will be considered for the construction of the roads and sewers only. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W. 1. Deposit £1 1s.

AUGUST 15.—**Glamorganshire.**—REPAIRS, &C.—Repairs, &c., at:—(1) Pentwyn farm house and outbuildings, near Aberdare; (2) Tir Fry Farm, outbuildings, near Aberdare; (3) Brynau, farm buildings, near Aberdare, for the Glamorgan Agricultural Committee. Director of Agriculture, 30, Park-place, Cardiff.

AUGUST 15.—**Kelloholm.**—HOUSES.—Erection of 72 three-apartment houses and 20 of four apartments, for the Thornhill District Committee. Mr. W. Scott, architect, Inglewood, Sanquhar.

AUGUST 15.—**London.**—SHELVING.—Supply to the Commissioners of His Majesty's Works, &c., of deal shelving, &c. Controller of Supplies, H.M. Office of Works, &c., King Charles-street, Westminster, London, S.W. 1.

AUGUST 15.—**Pinxton.**—BUNGALOW.—Erection of bungalow. Mr. John Spiers, architect, Wilson-street, Pinxton.

AUGUST 15.—**Salsburgh.**—PLASTERING.—Plaster work in connection with Salsburgh Housing Schemes, for the Lanark B.C. Mr. P. C. Smith, Housing and Town-Planning Department, District Offices, Hamilton.

AUGUST 15.—**Sowerby Bridge.**—PAINTING.—External painting of Bolton Brow Working Men's Club. Mr. H. Nelson, at the Club, Sowerby Bridge.

AUGUST 15.—**Wakefield.**—ALTERATION.—Alteration to 6 Bond-street, Wakefield, for the West Riding C.C. West Riding Architect, County Hall, Wakefield.

AUGUST 15.—**West Suffolk.**—REPAIRS, &C.—Works on the County Council's Small Holdings Estates at Great Barton, Cockfield, Chilton, Freckenham, Haverhill, Lakenheath, and Mildenhall. County Architect, Mr. A. Ainsworth Hunt. Bank Chambers, Bury St. Edmunds.

AUGUST 16.—**London, E.**—PAINTING.—External painting of the whole of the building, &c., at the St. Andrew's Hospital, Devons-road, Bow, E.3, for the Poplar and Stepney Sick Asylum District Committee. Mr. Sydney G. Wright, Clerk to the Managers, Clerk's Office, St. Andrew's Hospital, Devons-road, Bow, E.3.

AUGUST 17.—**Darlington.**—HOUSES.—Erection of 120 houses for the T.C. Mr. George Winter, Borough Surveyor, Town Hall, Darlington. Deposit £1 1s.

AUGUST 17.—**Inverness.**—ALTERATIONS.—Alterations and additions to the Post Office, Inverness, for H.M. Office of Works. Architect, H.M. Office of Works, 4-5, Drumsheugh-gardens, Edinburgh. Deposit £1 1s.

✱AUGUST 17.—**London, S.W.1.**—PAINTING.—Painting, &c., at the Administrative Offices, Princes-row; and the Receiving House, Wallis's-yard, Buckingham Palace-road, S.W.1. Mr. W. J. Lickley, Clerk to the Guardians, Guardians' Offices, Princes-row, Buckingham Palace-road, S.W.1.

AUGUST 17.—**Westminster.**—PAINTING.—Painting &c., at the Administrative Offices, Prince's-row, and the Receiving House, Wallis's-yard, Buckingham Palace-road, for the Board of Guardians. Mr. W. J. Lickley, Clerk, Prince's-row, Buckingham Palace-road, S.W.1.

AUGUST 19.—**Cumberland.**—ALTERATIONS.—Alterations at Low Rigg Farm and cottages, Walton, Gelt Hall Farm and cottages, Castlecarrock, for the Cumberland C.C. Mr. J. Forster, County Architect, The Courts, Carlisle.

AUGUST 20.—**London.**—BUILDING WORKS.—The Commissioners of His Majesty's Works invite tenders for the execution of ordinary works and repairs to the buildings in their charge in the London District for periods of one or three years. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit, £1 1s.

✱AUGUST 22.—**Kent.**—ADAPTATION.—Adapting No. 1, Aberdeen-terrace, Blackheath, for use as a hostel for men. Mr. W. H. Robinson, F.S.A., Room 69, Sessions House, Maidstone. Deposit £2.

AUGUST 22.—**Quainton.**—POLICE STATION.—Rebuilding work at Quainton police buildings, for the Bucks C.C. Mr. R. J. Thomas, Aylesbury.

AUGUST 23.—**Maldon.**—PAINTING.—Painting of iron staging and overhead tanks at the Tollesbury Water Works and Latchingdon sub-pumping station, for the R.D.C. Mr. Wm. Almond, engineer, 6, Market Hill, Maldon, Essex.

AUGUST 23.—**Wickham Bishops.**—REPAIRS.—Repairing two cottages in Kelvedon-road, Wickham Bishops, for the R.D.C. Mr. Wm. Almond, surveyor, 6, Market Hill, Maldon, Essex.

✱AUGUST 24.—**Chiswick, W.**—RECONSTRUCTION BRIDGE.—Reconstruction and widening of the bridge in Wellesley-road, Chiswick, over the London and South Western Railway and the approach thereto with all incidental work. Mr. Edward Willis, A.M.I.C.E., Surveyor, Town Hall, Chiswick.

AUGUST 25.—**Barnsley.**—ALTERATIONS.—Alterations to the Union Inn, Platts Common, near Barnsley, for Messrs. H. Tomlinson, Ltd., Anchor Brewery, Sheffield. Messrs. Dyson, Cawthorne & Coles, architects, 10, Regent-street, Barnsley.

AUGUST 25.—**Edinburgh.**—EXTENSION.—Extension of the laboratory, Royal Botanic Gardens, Edinburgh Architect, H.M. Office of Works, 4-5, Drumsheugh-gardens, Edinburgh. Deposit £1 1s.

✱AUGUST 26.—**Islington, N.**—REPAIRS, ALTERATIONS AND BUILDING.—Repairs and alterations, and the erection of a new bakehouse, &c., for the Guardians of the Poor of the Parish of St. Mary, Upper Holloway, N., at their Institution, St. John's-road. Mr. Edmund J. Harrison, Architect to the Guardians, 23, Berkeley-road, Crouch End, N.8. Deposit £2.

✱AUGUST 26.—**Islington, N.**—FIRED OVENS.—Erection and completion of two double-decker steam pipe fired ovens for the Guardians of the Poor of the Parish of St. Mary, Upper Holloway, N., at their Institution, St. John's-road. Mr. Edmund J. Harrison, Architect to the Guardians, 23, Berkeley-road, Crouch End, N.8. Deposit £2.

AUGUST 27.—**Berry.**—HOUSES.—Erection of 110 houses for the U.D.C. Mr. E. R. Hinchsliff, architect, County Hall, Berry. Deposit £1 1s.

AUGUST 29.—**Barton-upon-Irwell.**—PAINTING—Painting at the Union Office, Patricroft, for the U.D.C. Mr. Charles Faulkner, Clerk, Union Offices, Patricroft, Manchester

AUGUST 31.—**London.**—ALTERATIONS.—Alteration to existing building, to form assistant medical officer's quarters at the Western Fever Hospital, Seagrave-road, Fulham, S.W. 6, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C. 4. Deposit £1.

AUGUST 31.—**London.**—PAINTING, ETC.—Cleaning and painting and repairs at Eastern Ambulance Station, Homerton-grove, Homerton, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C. 4. Deposit £1.

✱AUGUST 31.—**London, S.W.**—ALTERATIONS.—Alterations to existing building to form Assistant Medical Officer's Quarters, at the Western Fever Hospital, Seagrave-road, Fulham, S.W.6., for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1.

✱AUGUST 31.—**London, N.E.**—CLEANING, PAINTING AND REPAIRS.—Cleaning, painting and repairs at the Eastern Ambulance Station, Homerton, N.E., for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1.

✱AUGUST 31.—**Woolwich.**—REPAIRS AND PAINTING.—Repairs and painting to the Dispensary and Receiving Home, Parkdale-road, Plumstead, and the Union Offices, 99, Rectory-place, Woolwich, for the Guardians of the Woolwich Union. Messrs. Whincop & Parnell, architects, 42, William-street, Woolwich.

SEPTEMBER 1.—**Johnstone.**—PLASTERING AND PAINTING.—For the plasterer and painter work for the 114 houses to be erected at the Kilbarchan-road scheme. Messrs. Jaffrey & Lochhead, measurers, 28, High-street, Johnstone.

SEPTEMBER 7.—**Windlesham.**—MORTUARY, &C.—Erection of buildings, comprising mortuary, waiting-room, &c., entrance gates and piers and incidental works at the New Cemetery, for the U.D.C. Mr. J. E. Weeks, Surveyor Council, Council Offices, Bagshot. Deposit £1 1s.

NO DATE.—**Buxton.**—STAND.—Erection of stand and turnstiles on football ground. Mr. C. Flint, architect, the Quadrant, Buxton.

NO DATE.—**Ecclesall.**—House.—Erection of a Shalley residence of Ecclesall. Mr. Raymond Berry, architect, 150, Murray-road, Ecclesall.

NO DATE.—**Leeds.**—EXTENSION.—Extension of club premises at Woodlesford, near Leeds. Mr. W. P. Peters, architect, 89, Albion-street, Leeds.

NO DATE.—**New Brighton.**—FOOTBALL STANDS.—Erection of stands at New Brighton Football Club Ground, Rake-lane, Liscard. Dr. T. Martlew, Seabank-road, Liscard.

✱NO DATE.—**Pembrokeshire.**—BUILDING.—Erection of a new General Hospital at Haverfordwest. Mr. Hugh J. P. Thomas, 11, Victoria-place, Haverfordwest. Deposit £3 3s.

NO DATE.—**Salford.**—VARIOUS WORKS.—For roof glazing, sanitary fittings, heating, fire grates, etc., at Nab Top Sanatorium, for the T.C. Mr. J. Cubbon, architect, 202, Upper Chorlton-road, Manchester. Deposit £2 2s.

## FURNITURE, MATERIALS, etc.

AUGUST 16.—**London.**—GRANITE SETTS.—Supply of granite setts, for use in the Tramways Department, for the L.C.C. General Manager, London County Council Tramways, 23, Belvedere-road, Lambeth, S.E. 1.

AUGUST 17.—**Grimsby.**—MATERIALS.—Supply of highway materials and sanitary requirements. Mr. H. Gilbert Whyatt, Borough Engineer, Grimsby.

AUGUST 17.—**London.**—DUSTBINS.—Supply to Commissioners of His Majesty's Works, &c., of 1,000 galvanised iron sanitary dustbins. Contracts Branch, H.M. Office of Works, London, S.W. 1.

AUGUST 17.—**London.**—OILS.—Supply of oils to H.M. Commissioners of Works. Controller of Supplies, H.M. Office of Works, King Charles-street, S.W.

AUGUST 18.—**Malta.**—TOOLS.—Supply of blacksmiths' carpenters' and fitters' tools required at the Civil Prison. Crown Agents for the Colonies, 4, Millbank, S.W.

AUGUST 23.—**Egypt.**—PAINTS AND OILS.—The Egyptian Delta Light Railways Ltd., invite tenders for the supply of paints and oils. Company's Office, 210-216, Gresham House, E.C.2. Charge 10s.

AUGUST 29.—**Egypt.**—CEMENT.—The Director-General of the Ports and Lighthouses Administration at Alexandria invites tenders for the supply of 100 tons of cement. Department of Overseas Trade, 35, Old Queen-street, Westminster, S.W. 1.

AUGUST 31.—**Camberwell.**—MATERIALS.—Supply of builders' materials, engineering goods, etc., to the St. Giles Board of Guardians. Mr. E. E. Mott, Clerk, 29, Peckham-road, S.E.

SEPTEMBER 7.—**Johannesburg.**—STREET ORDERLY BINS.—Supply of 50 street orderly bins to the Municipal Council. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

SEPTEMBER 8.—**West Ham.**—MATERIALS.—Supply to the Board of Guardians of builders' and engineers' materials, oils, etc., for three months. Clerk, Union-road, Leytonstone.

✱SEPTEMBER 12.—**Marylebone.**—MATERIAL.—Material, fodder, ironmongery, chandlery, &c., for a period of six months commencing October 1, for the Metropolitan Borough of St. Marylebone. Mr. James Wilson, Town Clerk, Town Hall, Marylebone-road, N.W.1.

✱SEPTEMBER 19.—**Marylebone, N.W.1.**—MATERIALS AND WORK.—Materials (building, &c.) and work for a period of six months commencing October 1, 1921, for the Metropolitan Borough of St. Marylebone. Mr. J. Paget Waddington, Borough Engineer and Surveyor, Town Hall, Marylebone-road, N.W.1.

## ENGINEERING, IRON AND STEEL

AUGUST 13.—**Riccall.**—PIPES, &C.—Supply of cast-iron water mains, valves, and special castings, to the R.D.C. Mr. J. Townend, Clerk, 1, Abbey-place, Selby.

AUGUST 15.—**Australia.**—STEELWORK AND PLANT.—Supply to the State Electricity Commission of Victoria of steelwork for power station buildings, roof covering and electrical plant. Agent-General for Victoria, Victoria House, Strand, W.C.

AUGUST 16.—**Argentine.**—STEEL.—Supply to the Bridges and Roads Department 280 tons of rolled steel and 10 tons of cast steel. Department of Overseas Trade, 35, Old Queen-street, S.W.

AUGUST 15.—**Huddersfield.**—HEATING APPARATUS.—For heating apparatus for house, Hill Liberal Working Men's Club. Secretary at the club.

AUGUST 15.—**Prudhoe Hall.**—RAILINGS.—The Northern Counties Joint Poor Law Committee invite tenders for wrought iron balcony railings and balustrades to the new buildings at Prudhoe Hall Colony. Messrs. Morton & Burrell, architects, South Shields. Deposit £5.

AUGUST 16.—**Croydon.**—STEELWORK.—Supply of 214 tons of structural steelwork. Borough Engineer, Town Hall, Croydon. Deposit, £1 1s.

AUGUST 18.—**Manchester.**—TANK.—Supply and erection at the Barton Power Station of a transformer oil tank. Mr. Fredk. E. Hughes, Secretary, Electricity Department, Town Hall, Manchester.

AUGUST 20.—**Egypt.**—MATERIALS, &C.—Supply of brass, copper, iron bars and plates, &c., to the Director-General of Ports and Lighthouses Administration at Alexandria. Inquiry Room, Department of Overseas Trade, 35, Old Queen-street, S.W. 1.

AUGUST 20.—**Mansfield.**—SALVAGE PLANT.—Erection of salvage plant at the Health Depot, comprising: (1) Refuse screening plant in two units, with total capacity of 100 tons per day, cinder washers, elevators and conveyors; (2) steel-framed building; (3) extension of tipping platform for the T.C. Mr. Waude Thompson, Borough Engineer, Market-street, Mansfield. Deposit £2 2s.

AUGUST 20.—**Stone.**—PUMPING ENGINE.—Provision and erection of a steam pumping engine of about 30 B.H.P. at the Waterworks of the U.D.C. Mr. R. C. Frain, M.I.C.E., 39, Albion-street, Hanley, Stoke-on-Trent. Deposit £1 1s.

AUGUST 20.—**Stone.**—BOREHOLE.—Sinking a 21 to 12-inch borehole, 500 ft. deep, at the Waterworks of the U.D.C. Mr. R. C. Frain, M.I.C.E., 39, Albion-street, Hanley, Stoke-on-Trent. Deposit £1.

AUGUST 22.—**Belfast.**—ELECTRIC PLANT.—Supply of boilers, pump, &c., to the Electricity Committee of the T.C. Mr. T. W. Bloxam, City Electrical Engineer, Belfast.

AUGUST 22.—**Waltham Abbey.**—SUPERSTRUCTURE.—Construction of the superstructure of a filter-house, formation of paths, &c., at the pumping station, for the Metropolitan Water Board. Mr. H. E. Stilgoe, Chief Engineer, 173, Rosebery-avenue, E.C. Deposit, £5.

AUGUST 24.—**London.**—SPRINGS, ETC.—Supply to the East Indian Railway of (1) Helical and volute springs; (2) steel boiler and flue tubes. Mr. G. E. Lillie, Secretary, Nicholas-lane, E.C. Charge £1 1s.

AUGUST 29.—**Edinburgh.**—VARIOUS WORKS.—For open cuttings and tunnel between the power station site and coal sidings site, including the construction of a coal bunker and access shaft and the earthworks for coal sidings and the laying of permanent way and ballasting for same, for the T.C. Engineer, Dewar-place, Edinburgh. Deposit, £4 3s.

AUGUST 29.—**Johannesburg.**—MACHINERY.—Erection of machinery, &c., for extension or by-products plant, municipal abattoirs, Johannesburg. Messrs. E. W. Carling & Co., St. Dunstan's-buildings, St. Dunstan's-hill, London, E.C. 3. Deposit £1 1s.

AUGUST 31.—**London.**—MATERIALS.—Supply to the South Indian Railway Co. of (1) Laminated, volute, and helical springs; (2) brushes; (3) rivets, nuts, and springs; (4) copper plates for locomotive fireboxes. Company's Offices, 91, Petty France, Westminster, S.W. 1. Charge £1 for (1) and 10s. each for others.

AUGUST 31.—**Manchester.**—PIPES.—Supply and erection at Barton Power Station of low-pressure steam and water pipes, for the T.C. Mr. F. E. Hughes, Sec., Electricity Dept., Town Hall, Manchester. Deposit, £1 1s.

SEPTEMBER 9.—**South Africa.**—FILTER PLANT.—Supply and erection for the Rand Water Board of a complete installation of mechanical or other filters capable of filtering 5½ million gallons of water per 24 hours at the Vereeniging Main Pumping Station. Enquiry Room of the Department of Overseas Trade, 35, Old Queen-street, Westminster, S.W.1.

SEPTEMBER 17.—**Wallasey.**—IRON WORK.—Supply of 12 cast-iron compressors, with steel tie rods and plates, for the attachment of landing-stage moorings. Messrs. Wilton & Bell, engineers, Westminster-chambers, 1, Crosshall-street, Liverpool. Deposit £1 1s.

SEPTEMBER 21.—**Barnes.**—PUMPING PLANT.—Supply and erection of semi-Diesel engines, centrifugal pumps and shafting at Barn Elms, Barnes, for the Metropolitan Water Board. Mr. H. E. Stilgoe, engineer, 173, Rosebery-avenue, E.C. Deposit, £1 1s.

OCTOBER 15.—**Wallasey.**—LANDING STAGE.—Construction of new floating goods landing stage, approximately 320 ft. in length and 80 ft. in breadth, for the T.C. Messrs. Wilton & Bell, engineers, Westminster Chambers, 1, Crosshall-street, Liverpool. Deposit £5 5s.

NO DATE.—**Manchester.**—ELECTRICAL WORKS.—The lessees of the City Hall invite tenders for electrical work at all exhibitions, &c., to be held in the hall. Lessee, Provincial Exhibitions, Ltd., 60, Corn Exchange Buildings, Fennel-street, Manchester.

## ROAD, SANITARY, AND WATER WORKS.

AUGUST 13.—**Edinburgh.**—LAY-OUT.—For iron fencing and laying off ground at housing scheme, Langholm, Ferry-road, for the T.C. Mr. George Simpson, architect, 14, Hill-street, Edinburgh.

AUGUST 15.—**Nottingham.**—PAVING.—Excavating, levelling, and tar-paving of the two old burial grounds, Barker-gate, for the T.C. Mr. Arthur Brown, City Engineer, Guildhall, Nottingham. Deposit £2.

AUGUST 15.—**Spennymoor.**—ROADS.—Making up front street "A," Tudhoe Colliery, for the U.D.C. Surveyor, Town Hall, Spennymoor.

AUGUST 16.—**Runcorn.**—WATER SUPPLY.—Laying and jointing of about 6,700 yards of 3 in. cast iron watermain, Dutton, for the R.D.C. Messrs. Wright & Hamlyn, surveyors, Sankey-street Chambers Warrington.

AUGUST 18.—**Rawmarsh.**—DRAINS.—Laying of house drains for 100 houses, for the U.D.C. Mr. J. A. Tonge, architect, Council Offices, Parkgate, Yorks.

AUGUST 18.—**Rotherham.**—STREETS, &c.—Construction of four private streets and back roads and conversion of 48 pan closets into w.c.'s, for the R.D.C. Mr. C. O. Rawstron, engineer, Imperial Buildings, Rotherham. Deposit, £1 1s. each tender.

AUGUST 20.—**Dunmow.**—STEAM ROLLERS.—Hire of 2 steam rollers for a minimum period of sixty days, for the R.D.C. Mr. A. E. Floyd, Clerk, Dunmow.

AUGUST 20.—**South Queensferry.**—SEWERS.—Construction of 9 in. cast iron syphons across Port Edgar Railway, and the laying of about 250 yards of 9 in. and 12 in. fireclay main sewers adjoining, for the T.C. Mr. W. M. Scott, architect, Linlithgow.

AUGUST 20.—**Tadcaster.**—WATER MAINS, ETC.—Providing and laying about 520 yards of 2 in. and 3 in. cast-iron water pipes, with valves, etc., together with the erection of a water storage tank, for the R.D.C. Mr. H. C. Wood, Sanitary Surveyor, Tadcaster.

AUGUST 22.—**Alfreton.**—WATERWORKS.—Supply of pipes, &c., and laying about 6,750 yards of pipes for the U.D.C. Mr. R. F. Ward, water engineer, Kingstreet, Alfreton.

AUGUST 23.—**Easington.**—ROADS, &C.—Making up of private streets, for the R.D.C. Mr. J. G. Heslop highway surveyor, Castle Eden. Deposit £2.

AUGUST 26.—**Manchester.**—RECREATION GROUND.—Extension to Kemp-street Recreation Ground, Oldham-road, for the T.C. City Engineer, Town Hall, Manchester. Deposit £2 2s.

SEPTEMBER 1.—**Tangier.**—EARTHWORKS.—Construction of earthwork on the Arbaona section of the Tangier-Fez Railway. Department of Overseas Trade, 35, Old Queen-street, S.W.

NOVEMBER 17.—**Uruguay.**—WATER AND DRAINAGE WORKS.—Construction of water and drainage works at San Jose. Department of Overseas Trade, 35, Old Queen-street, S.W.

NO DATE.—**Manchester.**—PLUMBING.—The Lessees of the City Hall invite tenders for plumbing work at all exhibitions, &c., to be held in the hall. Lessees, Provincial Exhibitions, Ltd., 60, Corn Exchange-buildings, Fennel-street, Manchester.

## Competitions.

*(See Competition News, page 189*

## Auction Sales, Tenders, etc.

✱AUGUST 16.—**Catford, S.E.**—Messrs. Joseph Hibbard & Sons will sell by order of the owners to clear site, upon the railway sidings (adjoining Catford and Catford Bridge Railway sidings, S.E. & C. Rly.), stock of well-sawn timber, floorings, matchings, weather-boarding, &c. Auctioneers, Newington Green, Islington, N.

AUGUST 17.—**London, S E.**—Mr. Frank G. Bowen will sell salvage at Petrograd Wharf, 369, St. James-road, Old Kent-road, London, S.E.1 (near Canal Bridge), first portion of the valuable salvage stock of imported timber. Auctioneers, 62A, Aldersgate street and Harecourt, London.

✱AUGUST 17 AND 31—SEPTEMBER 14 AND 28.—**London, S.E.**—Mr. Frank G. Bowen will sell salvage stock of imported timber (the greater portion slightly damaged by water only), mahogany, American white wood, Quebec birch, &c. Auctioneer, 62A, Aldersgate-street and Hare-court, London, E.C.1.

✱SEPTEMBER 5.—**Bramley, Hants.**—Messrs. Simmons & Sons will sell, by direction of the Disposal Board, at Bramley Stores, Bramley, Hants., adjoining Bramley Station, G.W.R. (4 miles from Basingstoke, 12 from Reading), materials, stores, &c. Auctioneers, 39, Belgrave-street, Reading and Henley-on-Thames and Basingstoke.

## Public Appointments.

AUGUST 15.—**Essex.**—Heating Engineer required in the office of the County Architect by the Essex County Council. Mr. Jno. Stuart, County Architect, County Offices, Old Court, Springfield, Chelmsford.

AUGUST 26.—**London.**—Visiting Teachers required by the L.C.C.—Metal plate, building construction, painting and decorating; also permanent teacher at School of Building. Preference will be given to candidates who have served or attempted to serve with H.M. Forces. Education Officer (T.1A), Education Offices, Victoria Embankment, W.C.2.

## PATENTS.

APPLICATIONS PUBLISHED.*

163,783.—G. Calver: Construction of structures from concrete blocks and slabs.

163,787.—R. H. Elleray: Door and like indicators.

163,802.—Dunn Manufacturing Co. and W. H. McKissick: Well tubing.

163,816.—C. A. Allison (I. Tajima): Window sash-frame.

163,819.—I. Rasanen: Cranes particularly adapted for use in the erection of buildings.

163,827.—E. C. Dittmar: Method of and apparatus for coating and finishing flooring.

140,401.—Ball Engine Co.: Power shovels.

140,405.—Ball Engine Co.: Power shovels.

163,849.—P. W. Griffin: Method of and means for moulding walls and similar structures of concrete.

163,865.—A. Rhodes: Machines for planing wood and for performing similar operations.

163,872.—W. Wilcock: Windows.

163,882.—R. J. Mathews: Flues and chimneys.

163,883.—C. Criara and M. Paolini: Saw frames for the sawing of stone.

163,892.—D. C. Patterson: Building construction.

143,249.—A. Altorfer: Shelf stands for shops and the like.

163,939.—J. E. Spagnoletti and A. S. Grunspan: Construction of roads and paths.

164,097.—J. S. Whitaker and Whitakers (Engineers), Ltd.: Hoisting-gear for cranes or winches.

164,109.—J. Abbot and S. P. Shaw: Constructing of reinforced concrete walls and partitions.

164,120.—L. W. Goold (Z. A. Hall): Stove or range.

164,121.—J. D. W. Stark: Method of erecting walls or buildings and means for use therefor.

164,125.—M. M. Smith: Precast building blocks, beams, piers, or like members.

164,127.—T. Rondelli, Q. Sestini, and Sestron Colour Oxidising Co., Ltd.: Colouration of metallic surfaces.

164,128.—T. Rondell, Q. Sestini, and Sestron Colour Oxidising Co., Ltd.: Oxidation and colouration of ferrous surfaces.

164,129.—T. Rondell, Q. Sestini, and Sestron Colour Oxidising Co., Ltd.: Preparation of ferrous surfaces for enamelling, varnishing, or like finish.

153,273.—Ball Engine Co.: Power shovels.

164,169.—F. D. Bull: Decorative insulating-composition.

164,233.—A. S. Adams: Cement, concrete, and like slabs and blocks.

164,408.—G. W. Berry: Manufacture of hinges of the flat or plate type.

164,429.—G. Pauton and E. Debant: Means for preventing sagging or dropping of doors and like closure members in the closed position.

164,465.—E. Hurden, A. P. Hurden and S. E. Beeson: Walls or partitions for buildings and like structures.

*** All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.**

## TENDERS.

**Communications for insertion under this heading should be addressed to "The Editor," and must reach him *not later than Tuesday evening.***

***Denotes *accepted*. †Denotes *provisionally accepted* ‡Denotes *recommended for acceptance*. §Denotes *accepted subject to modifications*.**

BATTLE.—For laying water-main to housing site for the U.D.C.:—

| | |
|---|---|
| *R. Cook & Sons, Crawley | £695 |

BICESTER.—For the erection of eight houses, Class B, for the U.D.C. Mr. H. W. Smith, architect, Oxford:—

| | |
|---|---|
| Benfield & Loxley, Oxford | £5,630 0 0 |
| Hinkin & Frewin, Oxford | 6,189 14 1 |
| Billings & Co., Oxford | 6,465 0 0 |
| C. Organ & Son, Oxford | 6,543 0 0 |
| Bartlett, Witney | 6,544 0 0 |
| N. Capel & Son, Oxford | 6,609 0 0 |
| Kingerlee & Son, Oxford | 6,656 0 0 |
| Walker, Steeple Claydon | 6,674 3 5 |
| Hitchcock, Buckingham | 7,610 16 0 |

BOSTON.—For certain hut additions at Allan House, Carlton-road, for the Holland C.C. Education Committee. Messrs. Scorer & Gamble, architects, Bank-street Chambers, Lincoln:—

| | |
|---|---|
| *F. Darby, Boston | £2,900 0 0 |
| Thornhill Bros., Lincoln | 3,250 0 0 |
| W. Greenfield, Boston | 3,499 0 0 |
| J. Leafe & Sons, Boston | 3,670 0 0 |
| J. Lucas & Sons, Boston | 3,698 17 6 |
| J. R. Pett, Skirbeck, Boston | 3,700 0 0 |

BO'NESS.—For new houses at Craigallan site, for the T.C.:—

| | |
|---|---|
| *J. Hardie & Sons (*Building and Digging*) | |
| Brick | £19,055 |
| Stone | 22,201 |
| *Cochrane Bros. (*Carpenter work*) | |
| Brick | 12,747 |
| Stone | 14,268 |
| *T. Burnett (*Plumber work*) | |
| Brick | 5,383 |
| Stone | 5,394 |
| *Kilpatrick's Trustees (*Slater and Roughcasting*) | |
| Brick | 4,398 |
| Stone | 3,074 |
| *Kilpatrick's Trustees (*Plastering*) | 3,600 |
| *D. O. May (*Glazing*) | 217 |
| *John Finlay & Co. (*Electric Lighting*) | 602 |
| *D. Grant & Son (*Painter*) | 1,532 |

BRACKLEY.—For the repair, painting and decoration, inside and out, of the Town Hall, for the T.C. Mr. A. A. Green, Borough Surveyor, Brackley:—

Booth & Son, Banbury (approximately) £400

CHATHAM.—Erection of 12 houses for police, for the Kent C.C.:—

| | |
|---|---|
| *C. E. Skinner & Sons | £800 per house. |

CHEADLE.—For erection of 12 houses on Blythe Marsh site for the R.D.C.:—

| | |
|---|---|
| *J. Gretton, Burslem | £746 to £854 per house. |

DARTFORD.—For the erection of a grand stand for the Dartford Football Club, Ltd. Mr. Gerald E. Burgess, M.S.A, architect, Station Approach, Dartford:—

| | |
|---|---|
| *J. W. Ellingham | £2,900 |
| F. Butcher | 2,987 |
| W. J. Cearns | 3,100 |
| O. M. Keevil | 3,159 |
| M. Peaster & Son | 3,535 |
| W. F. Blay, Ltd. | 3,700 |

DUNFERMLINE.—For the second instalment of housing scheme, comprising 158 houses, at Brucefield, for the T.C.:—

| | |
|---|---|
| *Dunfermline District Building Guild (*Excavator and brick work*) | £56,598 |
| *Dunfermline District Building Guild (*Carpenter and joiner work*) | 31,240 |
| *Charles R. Smith & Co. (*Glazier work*) | 724 |
| *J. Robertson & Sons (*Slater work*) | 10,701 |
| *W. Nicol, or A. Thomson & Co. (*Plumber work*) | 17,949 |
| *Dunfermline District Building Guild (*Plaster work*) | 12,589 |
| *H. Hoggan & Sons (*Painter work*) | 2,819 |

HULL.—For work required at the wharf, Ann Watson-street, for the T.C.:—

| | |
|---|---|
| G. Curtis | £448 6 0 |
| N. & H. Fisher | 420 7 2 |
| Henry Connell | 408 18 6 |
| Sangwin & Co. | 375 15 3 |
| G. Houlton & Son | 371 16 6 |
| Leggott & Speight | 369 17 0 |
| T. Burrell | 346 16 9 |
| *H. Langton & Son, Brazil-street | 300 12 3 |

* HULL.—For painting the tramway standards for the T.C.:—

*Robert White & Sons.—£229 2s. 6d. for 195 poles, £191 10s. 6d. for 163 poles, and £164 10s. for 140 poles.

*Campney Brothers.—£225 for 195 poles, £195 for 163 poles, and £165 for 140 poles.

HULL.—Erection of kiosk, cloakroom, etc., at West Park, for the T.C.:—

| | |
|---|---|
| P. T. Kettlewell, Hull | £860 |
| Stamp & Son, Barton | 790 |
| G. Houlton & Son, Hull | 774 |
| *Quibell & Son, Ltd., Hull | 764 |

IRVINE.—For four blocks of dwelling houses, for the local T.C. :—

| | |
|---|---|
| *John Wilson & Son, Irvine; F. Reid & Sons, Hugh Wark, James Anderson, and Alexander Brown (*Brick work*) | £18,584 |
| *Alexander Brown (*Drains and footpaths*) | 1,565 |
| *Irvine Master Wright Association (*Joiner work*) | 14,378 |
| *Irvine Master Wright Association (*Glazier work*) | 281 |
| *Irvine Branch of the North Ayrshire Master Slaters Association (*Slater work*) | 3,655 |
| *Irvine Branch Glasgow and West of Scotland Master Plumbers' Association (*Plumber work*) | 5,837 |
| *William Shaw, Irvine (*Plaster work*) | 3,739 |
| *Irvine Master Painters' Association (*Painter work*) | 1,619 |
| *James Grant & Co., Glasgow (*Electric Lighting*) | 788 15 |
| Total | £50,440 |

KENT.—Erection of four pairs of houses on the Sandling-road site, for the Kent C.C. :—

*G. Pearce & Sons..... £940 per house.

LONDON.—For alterations and additions to lighting plant at Eastern Hospital, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *Lund Bros. & Co., 22, Bennett-street, Blackfriars | £384 10 6 |
| London Electrical Engineering Co. | 412 13 9 |
| A. V. Gifkins & Co. | 435 0 0 |
| Electrical Contracts & Maintenance Co., Ltd. | 483 0 0 |
| G. E. Taylor & Co. | 679 9 0 |

LONDON.—For making roads, etc., at Eastern Hospital, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *E. Greenfield, 56, Edenbridge-road, Bush Hill Park, Enfield | £449 3 0 |
| G. Wimpey & Co., Ltd. | 477 0 0 |
| A. C. W. Hobman & Co., Ltd. | 515 0 0 |
| Thos. Adams | 626 0 0 |

LONDON.—For joinery work at nurses' home, Tooting Bec Hospital extension, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *C. Jay Cole, Ltd. | £1,525 7 6 |
| Chessums, Ltd. | 1,555 4 2 |
| Hibberd Bros., Ltd. | 1,640 2 0 |
| Elliott & Sons, Ltd. | 1,678 14 0 |
| John Greenwood, Ltd. | 1,887 11 2 |

LONDON.—Cleaning, painting and repairs at Brook Hospital, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *L. Kazak, 12, Steele's-road, Hampstead | £4,318 0 0 |
| T. Carr | 4,832 9 0 |
| E. Proctor & Sons | 4,954 15 3 |
| J. S. Fenn | 4,971 18 5 |
| Douglass, Halse & Co., Ltd. | 4,998 0 0 |
| M. McCarthy | 5,208 0 0 |
| Edwards Construction Co., Ltd. | 5,466 0 0 |
| W. Lawrence & Son, Ltd. | 5,571 0 0 |
| Aldin Bros. & Davies | 6,390 11 8 |
| Montrose & Co. | 6,689 0 0 |
| R. Haslam & Son | 8,499 8 3 |

The Engineer-in-Chief's estimate was £4,700.

LONDON.—Cleaning and painting works at Southern Hospital, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *L. Kazak, 12, Steele's-road, Hampstead | £9,804 0 0 |
| D. C. Bowyer | 10,730 19 2 |
| O. M. Keevil | 11,044 10 8 |
| J. S. Fenn | 11,338 5 7 |
| Douglass, Halse & Co. | 11,471 0 0 |
| Edwards Construction Co., Ltd. | 12,016 0 0 |
| W. Hussey | 12,649 0 0 |
| A. Knowles | 13,405 3 4 |
| W. Blay, Ltd. | 16,290 0 0 |
| T. W. Heath, Ltd. | 20,248 0 0 |
| J. Hocking & Co. | 22,088 0 0 |

The Engineer-in-Chief's estimate was £11,000.

LONDON.—New boundary fence at Millfield, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *C. J. Drake & Co., Rustington, Sussex | £246 4 |
| W. J. White & Sons | 296 0 |
| A. Turner & Son, Ltd. | (Informal) |

LONDON.—Painting works and repairs at Children's Infirmary, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *H. A. Thomas & Son | £285 8 0 |
| Payne Bros. | 298 0 0 |
| T. W. Heath, Ltd. | 320 0 0 |
| J. J. Powers | 323 12 0 |
| J. Darch | 340 0 0 |
| H. J. Draper & Son | 387 12 0 |
| A. H. Inns | 407 0 0 |
| H. Pickering & Son | 419 0 0 |
| Joyce | 425 0 0 |
| Stoneley & Co. | 442 0 0 |
| Edwards Construction Co., Ltd. | 454 8 6 |
| W. Flaherty & Son | 475 0 0 |
| J. S. Fenn | 487 0 0 |
| Arding & Hobbs, Ltd. | 498 0 0 |
| Markham & Markham | 525 0 0 |
| P. G. Houghton | 644 0 0 |
| A. W. Piggott & Co., Ltd. | 1,028 10 0 |

LONDON.—Painting works and repairs at South Wharf, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *F. Cory, 78, Douglas-street, Deptford | £309 12 6 |
| A. Withey | 336 10 0 |
| H. A. Thomas & Son | 395 4 6 |
| Edwards Construction Co., Ltd. | 402 0 0 |
| W. J. Dixon | 518 0 0 |
| R. J. Truscott | 550 0 0 |
| Stoneley & Co. | 688 0 0 |

LONDON.—Painting works and repairs at St. George's Home, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *J. J. Woollaston, 24, Lansdowne-road, Tottenham | £379 0 0 |
| Chappell Bros. | 385 0 0 |
| C. W Peach | 424 0 0 |
| R. Dixon & Sons | 474 0 0 |
| E. Christian & Sinclair | 475 0 0 |
| R. J. Truscott | 477 18 0 |
| Dowsett & Jenkins, Ltd. | 510 0 0 |
| Arding & Hobbs, Ltd. | 518 0 0 |
| Stoneley & Co. | 544 0 0 |
| T. W. Heath, Ltd. | 563 0 0 |
| W. Flaherty & Son | 575 0 0 |
| J. S. Fenn | 587 10 0 |
| P. G. Houghton | 690 0 0 |
| Markham & Markham | 835 0 0 |
| Semco, Ltd. | 897 15 0 |
| A. G. Reffold & Flint | 2,849 4 10 |

LONDON.—Painting works and repairs at St. Margaret's Hospital, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *L. Kazak, 12, Steele's-road, Hampstead | £375 0 0 |
| Payne Bros. | 395 0 0 |
| S. Shaw | 395 0 0 |
| H. A. Thomas & Son | 421 9 6 |
| J. S. Fenn | 437 15 0 |
| T. W. Heath, Ltd. | 505 0 0 |
| Marchant, Hirst & Co. | 509 0 0 |
| W. Flaherty & Son | 580 0 0 |
| F. Randall & Sons | 599 5 0 |
| A. H. Inns | 652 0 0 |
| Barber, Dunderdale & Co. | 679 18 0 |
| Arding & Hobbs, Ltd. | 857 0 0 |
| Markham & Markham | 1,391 0 0 |

LONDON.—Cleaning and painting work at Goldie Leigh Homes, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *R. Haslam & Son, 46, Brookhill-road, Woolwich | £187 5 |
| D. C. Bowyer | 199 0 |
| A. Withey | 215 10 |
| E. Proctor & Sons | 250 0 |
| J. H. Sutch & Sons | 270 0 |
| Douglass, Halse & Co., Ltd. | 341 0 |
| W. Sutch | 368 0 |
| J. S. Fenn | 478 0 |
| Edwards Construction Co., Ltd. | 487 0 |

LONDON.—Road repairs at Grove Hospital, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *G. Wimpey & Co., Ltd., The Grove, Hammersmith | £385 0 0 |
| A. C. W. Hobman & Co. | 409 0 0 |
| J. Wainwright & Co. | 420 10 9 |
| J. Mowlem & Co. Ltd. | 468 0 0 |
| T. Adams | 498 0 0 |
| C. Carter | 577 0 0 |
| G. Reader | 1,550 0 0 |

LONDON.—Road repairs at High Wood, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *Chittenden & Simmons, Ltd., Bank Buildings, Maidstone | £324 |
| A. C. W. Hobman & Co., Ltd. | 446 |
| T. Adams | 524 |
| A. J. Arnold | 798 |

LONDON.—Additional sitting-room accommodation at Park Hospital, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *W. J. Dixon, 3, Blue Anchor-lane, Bermondsey | £179 0 |
| Aldin Bros. & Davies | 189 15 |
| H. J. Taylor | 220 0 |
| Dowsett & Jenkins, Ltd. | 230 0 |
| W. Pollock | 296 0 |
| A. H. Sheppard | 302 0 |
| Rook & Besant | 416 13 |

LONDON.—Alterations to shutters of sheds at North-Western Ambulance Station, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *W. S. Sharpin, Wellington Works, Wellington-road, Bow, E. | £167 0 |
| Dowsett & Jenkins, Ltd. | 182 0 |
| J. Darch | 189 10 |
| Douglass, Halse & Co., Ltd. | 290 0 |

LONDON.—Alterations to provide changing rooms at South Western Hospital, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *Chappell Bros., 304, Balham High-road, S.W. | £185 0 0 |
| A. H. Sheppard | 214 0 0 |
| Dowsett & Jenkins, Ltd. | 246 0 0 |
| Aldin Bros. & Davies | 256 10 0 |
| H. T. Bishop, Ltd. | 325 0 0 |
| T. W. Heath, Ltd. | 340 0 0 |
| Rook & Besant | 353 3 0 |
| F. B. Young | 370 8 3 |
| A. W. Piggott & Co., Ltd. | 684 12 6 |

LONDON.—Supply of hot water pipes and fittings at Park Hospital, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *Meadow Foundry Co., Ltd., Mansfield, Notts | £160 5 10 |
| Thames Bank Iron Co. | 164 1 9 |
| Pryke & Palmer | 173 3 2½ |

LONDON.—Repairs to roads and tar-paving at South Wharf, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *A. C. W. Hobman, Ltd., Stockholm-road, South Bermondsey | £143 11 0 |
| E. Greenfield | 166 12 6 |
| G. Wimpey & Co. | 185 0 0 |
| Constable, Hart & Co. | 305 0 0 |
| R. Adams | 534 0 0 |

LONDON.—For fireproof flooring at Baths extension, for the Stepney B.C. :—

*Siegwart Fireproof Floor Co..... £292 16

LOWESTOFT.—For heating work, &c., at the Empire Hotel, Lowestoft, for the Metropolitan Asylums Board :—

*Buckleys (London), Ltd. £2,795

LOWESTOFT.—For electrical work at the Empire Hotel, Lowestoft, for the Metropolitan Asylums Board :—

*A. V. Gifkins & Co. £3,920

MAIDSTONE.—For erection of garage and office building for Messrs. Edward Sharp & Sons, Ltd., Maidstone. Messrs. Ruck & Smith, architects, Week-street Maidstone :—

| | |
|---|---|
| West Bros., Ltd., Rochester | £12 310 |
| Barden & Head, Maidstone | 11,472 |
| Elmore & Son, Maidstone | 11,462 |
| Clark & Epps, Maidstone | 11,355 |
| C. A. Walter, Maidstone | 11,180 |
| Cox Bros., Maidstone | 10,600 |
| R. Corben & Son, Maidstone | 10,493 |
| *G. E. Wallis & Son, Ltd., Maidstone | 10,489 |

MAIDSTONE.—For Central Works, Postley-road Maidstone, for the Maidstone and District Motor Services, Ltd. Messrs. Ruck & Smith, architects Week-street, Maidstone :—

| | |
|---|---|
| Peerless Dennis & Co., Eastbourne | £12,944 |
| Elmore & Son, Maidstone | 11,148 |
| G. E. Skinner & Son, Chatham | 10,994 |
| C. Walter, Maidstone | 10,920 |
| Cox Bros., Maidstone | 10,813 |
| Clark & Epps, Maidstone | 10,470 |
| G. E. Wallis & Sons, Ltd., Maidstone | 10,243 |
| Barden & Head, Maidstone | 10,175 |
| *R. Corben & Son, Maidstone | 9,759 |

NEWBURY.—Erection of buildings at Gas Works, for the T.C. :—

*Wickens .. £1,121 10s. for buildings, and £150 for shaft.

NEWHAVEN.—Supply of fencing for the recreation ground, for the U.D.C. :—

*Baltic Saw Mills Co. £100 19 7

POOLE.—For additions to the Cornelia Hospital, for the Committee. Mr. H. Kendall, architect, Poole :

| | |
|---|---|
| Percy Bath, Upper Parkstone | £3,725 0 0 |
| The Bournemouth & District Builders' Guild, Ltd., Bournemouth | 3,495 1 7 |
| Best & Crabb, Parkstone | 3,382 16 5 |
| K. Wilson, Parkstone | 3,300 0 0 |
| Clark & Eaglen, Poole | 3,188 0 0 |
| *Burt & Vick, Poole | 2,994 3 10 |

READING.—For erection of 50 houses on Shenfield road site, for the T.C. :—

*Roberts (Birmingham), Ltd. £32,960

SALFORD.—For sanitary alterations at Pendleton Library, for the T.C. :—

*Luke Tims & Sons, Pendleton. £140

SALFORD.—Supply of screening apparatus and other ironwork at sewage works, for the T.C. :—

*S. S. Stott & Co., Haslingden. £7,591

SURBITON.—For the erection of 48 houses at Tolworth and Surbiton Hill, for the U.D.C. Mr. Martin S. Briggs, F.R.I.B.A., architect, Gower-street, W.C.1. Quantities by Mr. W. H. Lamble :—

| | Surbiton Hill. | | | | Tolworth. | | | |
|---|---|---|---|---|---|---|---|---|
| | Six "B" North. | Six "A" South. | Six "B4" South. | Six "B2" North. | Eight "A" South. | Six "B" South. | Four "A" North. | Six "B" North. |
| H. D. Ebbutt, Croydon | £7,000 | £6,700 | £7,380 | £5,900 .... | £8,300 | £6,630 | £4,340 | £7,750 |
| Stokes & Sons, Thames Ditton | —— | —— | —— | 4,945 .... | —— | —— | —— | 6,129 |
| Hill & Gurr, Bromley | 5,998 | 5,909 | 6,231 | 5,058 .... | 6,851 | 5,897 | 3,489 | 5,960 |
| Dilliway & Elvey, West Kensington | —— | 6,567 | —— | —— .... | 8,275 | 8,068 | 4,266 | 7,065 |
| Rutherford & Woolford, Tolworth | —— | —— | —— | —— .... | 6,244 | —— | —— | —— |
| Stevens, Horlock & Co., Hackney | 5,430 | 5,100 | 5,400 | 4,650 .... | 6,800 | 5,700 | 3,200 | 5,430 |
| Hooper & Hooper, Highgate | 6,646 | —— | —— | —— .... | —— | —— | —— | —— |
| Willesden Building Construction Co., Acton | —— | —— | —— | —— .... | —— | 4,900 | 3,067 | 4,960 |
| Purnell & Clifford, Slough | 5,680 | 5,430 | 6,261 | 4,967 .... | 6,918 | 5,784 | 3,513 | 5,879 |
| *W. H. Gaze & Sons, Ltd., Kingston | *5,274 | *5,087 | *5,297 | *4,487 .... | 6,220 | 5,721 | 3,209 | 5,101 |
| *Thorogood Bros., Surbiton | 5,770 | 5,780 | 6,300 | 4,888 .... | *5,862 | *5,326 | *2,876 | *4,941 |
| J. Smith & Sons, Ltd., Norwood | 5,960 | 6,280 | 6,180 | 4,970 .... | 6,840 | 6,290 | 3,500 | 5,650 |
| Winter & Ward, Harpenden | 5,759 | 5,530 | 6,161 | 4,863 .... | —— | —— | —— | —— |

Totals of accepted tenders :—*Surbiton Hill..... £20,145 .... *Tolworth..... £19,005

SOUTH QUEENSFERRY.—For the erection of 16 houses for the T.C. Mr. W. M. Scott, architect, Linlithgow :—

| | | | |
|---|---|---|---|
| *Brick work*— | | | |
| David Aitken, Bo-ness ..... | £5,540 | 0 | 6 |
| *Joiner work*— | | | |
| W. & I. R. Watson, Ltd., Edinburgh ..... | 4,103 | 19 | 8 |
| *Slater work*— | | | |
| Wm. Paris, Jnr., Broxburn .. | 1,072 | 5 | 6 |
| *Plaster work*— | | | |
| Wm. Paris, Jnr., Broxburn .. | 1,337 | 6 | 4 |
| *Plumber work*— | | | |
| Chas. V. Campbell, Broxburn | 1,456 | 2 | 10 |
| *Painter work*— | | | |
| Philip S. Pearson, Edinburgh | 371 | 12 | 4 |

SOUTH SHIELDS.—For fencing of works, for the T.C.:—

| | | | |
|---|---|---|---|
| *Hill & Smith, Brierley Hill.... | £111 | 2 | 10 |

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STEYNING (EAST).—For the erection of 12 houses at Carden-avenue, Patcham, for the R.D.C. Mr. Geo. W. Warr, Surveyor :—

| | |
|---|---|
| *Messrs. Bainbridge & Son, Eastbourne | £7,818 |
| *Messrs. James Bodle, Ltd., Eastbourne | 9,398 |
| *Messrs. W. & A. Elliott, Brighton.. | 10,900 |
| P. W. Gladstone, Wimbledon, S.W.19 | 10,942 |
| Messrs. McKellar & Westerman, Hove | 11,482 |
| Messrs. James Barnes & Sons, Brighton | 11,496 |
| Messrs. Saunders, Brighton ..... | 14,061 |

*Three lowest forwarded to Housing Commissioner.

STOCKTON-ON-TEES.—Erection of houses on the Blue Hall estate at Norton, for the T.C.:—
Sir Robert McAlpine & Sons, 113 pairs at £1,620 per pair.
A. J. Cooke, William Doughty, and J. S. Earnshaw, £840 per house, of which £770 is for building, the balance being on account of drains, paths, fencing, &c.
H. M. Norwell, 30 to 60 pairs at £794 15s. each house, to be erected with pre-cast reinforced concrete.
J. Byrom & Co., Ltd., £1,800 per pair, with an alternative offer to erect 226 houses, class "A" or "B," at about £780 for the former and £880 for the latter.
F. R. Hipperson, Norwich, 226 houses under the interlock system for £725 per house.
(Referred to Housing Commissioner.)

WALTHAM ABBEY.—Construction of foundations for filters at pumping station, for the Metropolitan Asylums Board :—

| | |
|---|---|
| *R. Robinson & Co..... | £1,134 8 9 |

WEST WICKHAM.—Construction of feed water filter, for the Metropolitan Water Board :—

| | |
|---|---|
| *F. S. Duthoit, Bromley..... | £275 |

WIBDON (GLOS.).—For the erection of six cottages, for the Lydney R.D.C. Messrs. Evill & Johnson, architects, Chepstow :—

| | |
|---|---|
| *J. R. James, Tutshill..... | £5,356 15 6 |
| For Water Supply Scheme :— | |
| *J. R. James, Tutshill..... | 52 0 6 |

WORTHING.—Lattice girders for pier, for the T.C. :—

| | |
|---|---|
| *Wolfe Keene Engineering Co., Ltd., Bristol..... | £375 7 9 |
| Structural Engineering Co., E.15 | 419 4 4 |
| A. C. Durham, Mistley, Essex.. | 466 1 2 |
| Standard Steel Co., Ltd., Croydon | 521 18 6 |
| Somerville-Barnard Construction Co., Ltd., S.E.14..... | 553 19 1 |
| M. T. Shaw & Co., Ltd., E.14.... | 650 8 6 |
| J. O. Brettell & Co., Worcester.. | 845 15 6 |
| The Padeswood Iron Works, Hawarden ..... | 881 12 6 |
| Walker Bros., Ltd., Walsall.... | 872 6 0 |
| JohnGill, Contractors, Ltd., E.C.4 | 904 0 0 |
| Societe Anonyme des Ateliers de Construction, E.C.4 ..... | 943 15 0 |
| Powers & Deane, Ransomes, Ltd., E.14 .. Offer to carry out work on time and materials and hire of tackle basis, plus 10 per cent. supervision charges and 10 per cent. profit. | 2,053 10 0 |

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WREXHAM.—For steel work in connection with the strengthening of Bradley-road Bridge, for the T.C. :—

| | |
|---|---|
| *Cleveland Bridge & Engineering Co., Darlington ..... | £1,800 |

### Staff Outing.

The annual staff outing of Messrs. E. A. Roome & Co., Ltd., took place on Saturday last. The party journeyed by chars-à-bancs and private cars to Burnham-on-Crouch, where an excellent luncheon and tea were served at the "Railway Hotel." The chair was occupied by the managing director, Mr. F. J. Gayer, who, in dealing with the toast of the "Employees," referred to the noticeable fact that quite a large number of those present had been with the Company many years, and were present on the occasion of the first of these annual outings, a point which emphasised the loyalty and good feeling existing between the Company and their staff.

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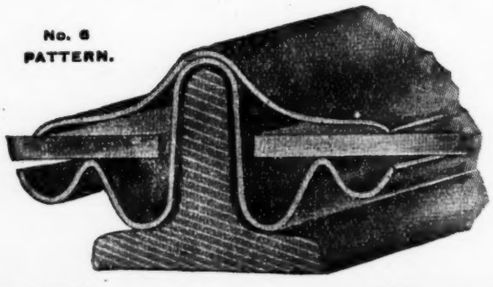
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